

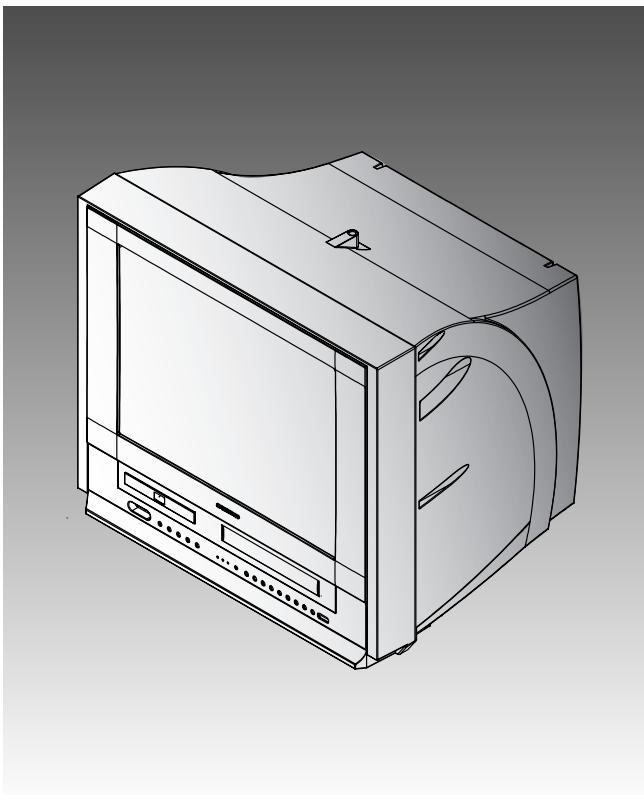
SAMSUNG

## DVD Television

Chassis : V18A  
Model: CFTD2083TX/SMS

# ***SERVICE Manual***

DVD Television Cassette Recorder



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## 1. Precautions

Follow these safety, servicing and ESD precautions to prevent damage and protect against potential hazards such as electrical shock and X-rays.

### 1-1 Safety Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.
2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including: nonmetallic control knobs and compartment covers.
3. Make sure that there are no cabinet openings through which people—particularly children—might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (Figure 1-1): Warning: Do not use an isolation transformer during this test. Use a leakage-current tester or a metering system that complies with American National Standards Institute (ANIS C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).
5. With the unit completely reassembled, plug the AC line cord directly into the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

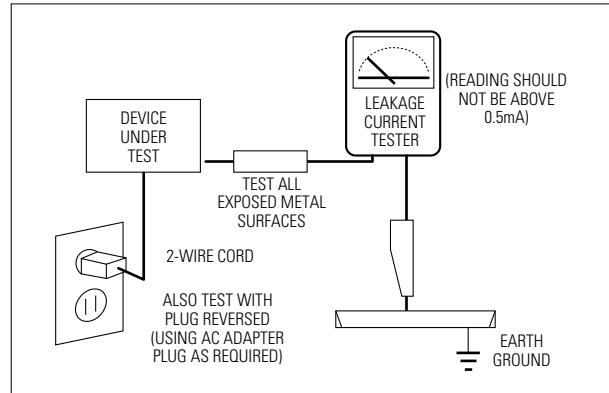


Fig. 1-1 AC Leakage Test

6. Antenna Cold Check: With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong. Connect the other lead to the coaxial connector.
7. X-ray Limits: The picture tube is especially designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original. Carefully reinstall the picture tube shields and mounting hardware; these also provide X-ray protection.
8. High Voltage Limits: High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits. Correct operation of the X-ray protection circuits must be reconfirmed whenever they are serviced. (X-ray protection circuits also may be called "horizontal disable" or "hold-down".)

Heed the high voltage limits. These include the X-ray Protection Specifications Label, and the Product Safety and X-ray Warning Note on the service data schematic.

## 1-1 Safety Precautions (Continued)

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9. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.
10. Design Alteration Warning:  
Never alter or add to the mechanical or electrical design of this unit. Example: Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.
11. Hot Chassis Warning:  
Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.  
  
To confirm that the AC power plug is inserted correctly, do the following: Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.
12. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, regardless of the AC plug polarity. These units can be safely serviced only if an isolation transformer inserted between the receiver and the power source.
13. Some TV chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.
14. Components, parts and wiring that appear to have overheated or that are otherwise damaged should be replaced with parts that meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards.

15. Observe the original lead dress, especially near the following areas: Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.
  16. Picture Tube Implosion Warning:  
The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.
  17. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.
  18. Product Safety Notice:  
Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original—even if the replacement is rated for higher voltage, wattage, etc.
- Components that are critical for safety are indicated in the circuit diagram by shading, (  ) or (  ).
- Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

## 1-2 Servicing Precautions

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Warning1: First read the "Safety Precautions" section of this manual. If some unforeseen circumstance creates a conflict between the servicing and safety precautions, always follow the safety precautions.

Warning2: An electrolytic capacitor installed with the wrong polarity might explode.

1. Servicing precautions are printed on the cabinet. Follow them.
2. Always unplug the unit's AC power cord from the AC power source before attempting to: (a) Remove or reinstall any component or assembly, (b) Disconnect an electrical plug or connector, (c) Connect a test component in parallel with an electrolytic capacitor.
3. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
4. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the portion around the serviced part has not been damaged.
5. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
6. **Insulation Checking Procedure:** Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500V) to the blades of the AC plug.  
The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
7. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
8. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

## 1-3 Precautions for Electrostatically Sensitive Devices (ESDs)

1. Some semiconductor (“solid state”) devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.
2. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. (Be sure to remove it prior to applying power—this is an electric shock precaution.)
3. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of electrostatic charge.
4. Do not use freon-propelled chemicals. These can generate electrical charges that damage ESDs.
5. Use only a grounded-tip soldering iron when soldering or unsoldering ESDs.
6. Use only an anti-static solder removal device. Many solder removal devices are not rated as “anti-static”; these can accumulate sufficient electrical charge to damage ESDs.
7. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
8. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
9. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an ESD.

### CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

## 1-4 Handling the optical pick-up

The laser diode in the optical pick up may suffer electrostatic breakdown because of potential static electricity from clothing and your body.

The following method is recommended.

- (1) Place a conductive sheet on the work bench (The black sheet used for wrapping repair parts.)
- (2) Place the set on the conductive sheet so that the chassis is grounded to the sheet.
- (3) Place your hands on the conductive sheet (This gives them the same ground as the sheet.)
- (4) Remove the optical pick up block
- (5) Perform work on top of the conductive sheet. Be careful not to let your clothes or any other static sources to touch the unit.

Be sure to put on a wrist strap grounded to the sheet.  
Be sure to lay a conductive sheet made of copper etc.  
Which is grounded to the table.

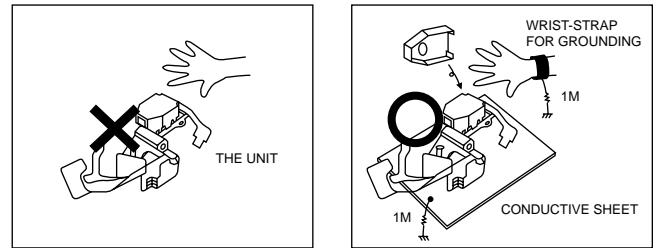


Fig.1-2

- (6) Short the short terminal on the PCB, which is inside the Pick-Up ASS'Y, before replacing the Pick-Up. (The short terminal is shorted when the Pick-Up Ass'y is being lifted or moved.)
- (7) After replacing the Pick-up, open the short terminal on the PCB.

## 1-5 Pick-up disassembly and reassembly

### 1-5-1 Disassembly

- 1) Remove the power code.
- 2) Disassemble the Deck-Assy.
- 3) Make solder land 2 points short on Pick-up.  
(See Fig. 1-3)
- 4) Disassembly the Pick-up.

**Note :** If the assembly and disassembly are not done in correct sequence, the Pick-up may be damaged.

### 1-5-2 Assembly

- 1) Replace the Pick-up.
- 2) Remove the soldering 2 points on Pick-up.
- 3) Reassemble the Deck-Assy.

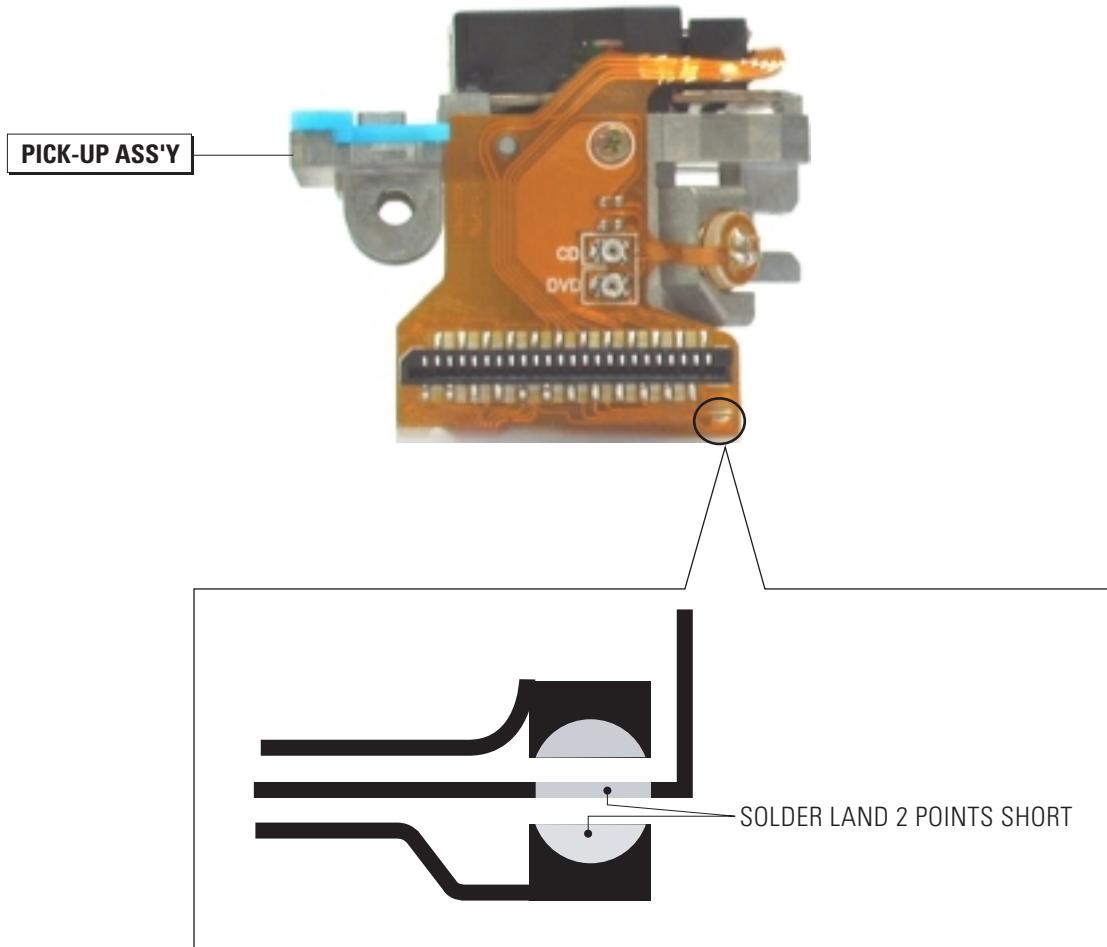


Fig. 1-3

## 2. Specifications

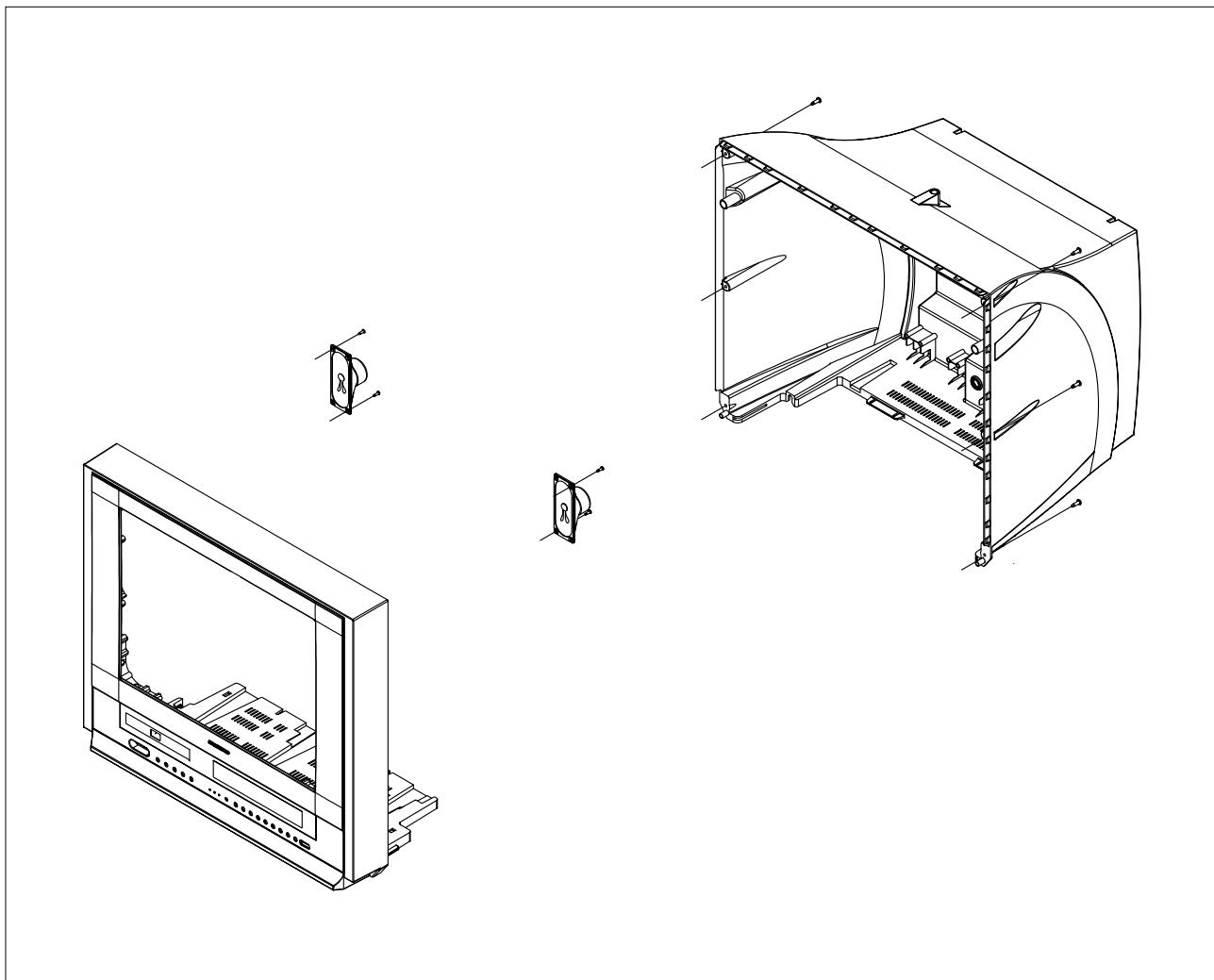
|                                 |   |
|---------------------------------|---|
| Model                           | CFTD2083T   |
| Power Consumption               | Specified on the rear side of TV (130W)   |
| Screen Size                     | Specified on the rear side of TV (51Cm)   |
| Dimmension(mm)                  | 584 (W) x 492 (D) x 515 (H)   |
| Weight                          | 28.5 Kg   |
| Tube                            | High Contrast Instant Receiving System  |
| Tuning Range                    | VHF 2 ~ 13, Receiving System: NTSC- M<br>UHF 14 ~ 69, CATV: CH1 ~ CH125   |
| Antenna Input                   | VHF, UHF: 75Ω Unbalanced  |
| Power Supply                    | 110V, 60Hz<br>Remote Control: DC 1.5V (two AA-size batteries)   |
| Rectification Type              | Insulation Switch Type  |
| Sound Output                    | 3W + 3W   |
| Adjustments                     | Remocon Adjustment: Infrared rays system<br>UHF/VHF Electronic Tuner Fine Tuning: Electronic<br>Electronic Function Adjustment  |
| Allowable Operating Temperature | +5°C ~ +35°C  |
| Allowable Operating Humidity    | 10% ~ 75%   |
| Disc                            | DVD<br>(Digital Versatile Disc)<br>Linear Velocity: 3.49m/sec<br>Maximum Playback Time: 135 minutes (Based on a single-sided and a single layer recording disc)       |
|                                 | CD: 12cm<br>(Compact Disc)<br>Linear Velocity: 1.2 ~ 1.4m/sec<br>Maximum Playback Time: 74 minutes  |
|                                 | CD: 8cm<br>(Compact Disc)<br>Linear Velocity: 1.2 ~ 1.4m/sec<br>Maximum Playback Time: 20 minutes   |
|                                 | Video- CD: 12cm<br>Linear Velocity: 1.2 ~ 1.4m/sec<br>Maximum Playback Time: 74 minutes (Video + Audio)   |
|                                 | Recording System<br>Rotary,azimuth four-head helical scanning system<br>Luminance : FM azimuth recording<br>Color signal : converted subcarrier phase shift recording |
| Audio Track                     | 1 track   |
| Tape Width                      | 12.7 mm (1/2 inch)  |
| Record Speed                    |   |
| SP                              | 33.35 mm/s (1.31 in./s)   |
| SLP                             | 11.12 mm/s (0.43 in./s)   |
| Record/Playback Time            | 480 min. with -160 used in SLP mode   |
| FF/Rew Time                     | Less than 100 sec. with T-120   |
| Heads                           | Video : 4 rotary heads<br>Audio/Control : 1 stationary head, 2 rotary heads<br>Erase : 1 full track erase<br>1 audio track erase                                      |

# **MEMO**

## 3. Disassembly and Reassembly

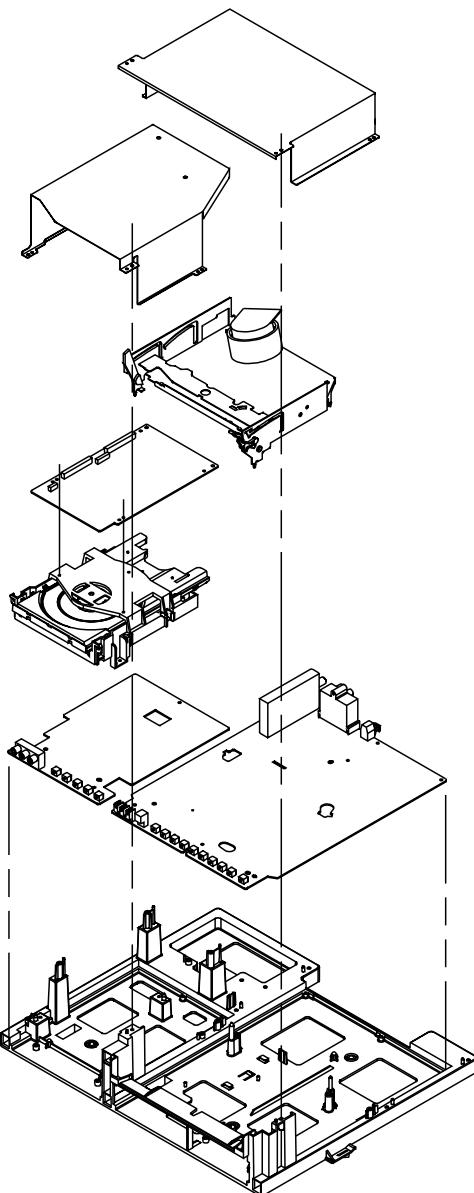
### 3-1 Disassembly

#### 3-1-1 Back Cover Removal



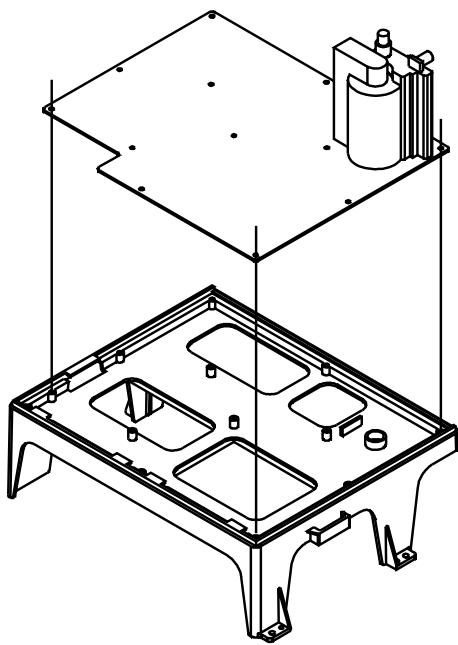
1. Remove the screws located on the side of the back cover.

### 3-1-2 Main Assembly Removal



1. Release four connectors between DVD Interface and Main PCB Assembly.
2. Remove screws from the DVD and VCR shield case.
3. Remove shield case, then take out DVD PCB Assembly.
4. Remove screws from the DVD and VCR Deck.
5. Lift up the DVD and VCR Deck, then Remove screws from Main and DVD Interface PCB Assembly.
6. Remove the Main and DVD Interface PCB Assembly.

### 3-1-3 Power Assembly Removal



1. Release two connectors between Power and Main PCB Assembly.
2. Remove screws from the Power Assembly.

## 3-2 VCR Deck Parts Locations

### 3-2-1 Top View

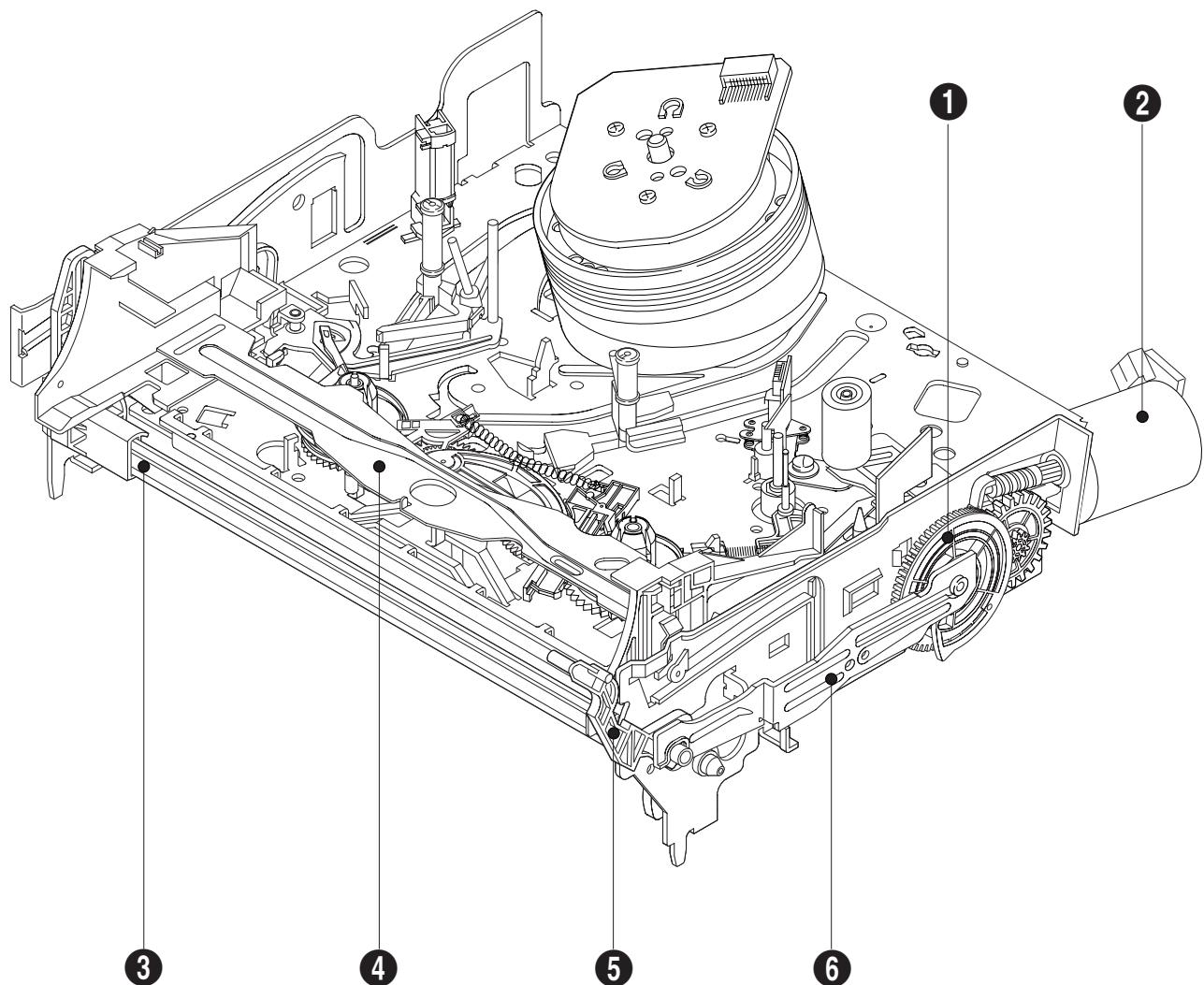


Fig. 3-1 Top parts Location-1

- ① GEAR FL CAM
- ② MOTOR LOADING ASS'Y
- ③ LEVER FL ARM ASS'Y
- ④ HOLDER FL CASSETTE ASS'Y
- ⑤ LEVER FL DOOR
- ⑥ SLIDER FL DRIVE

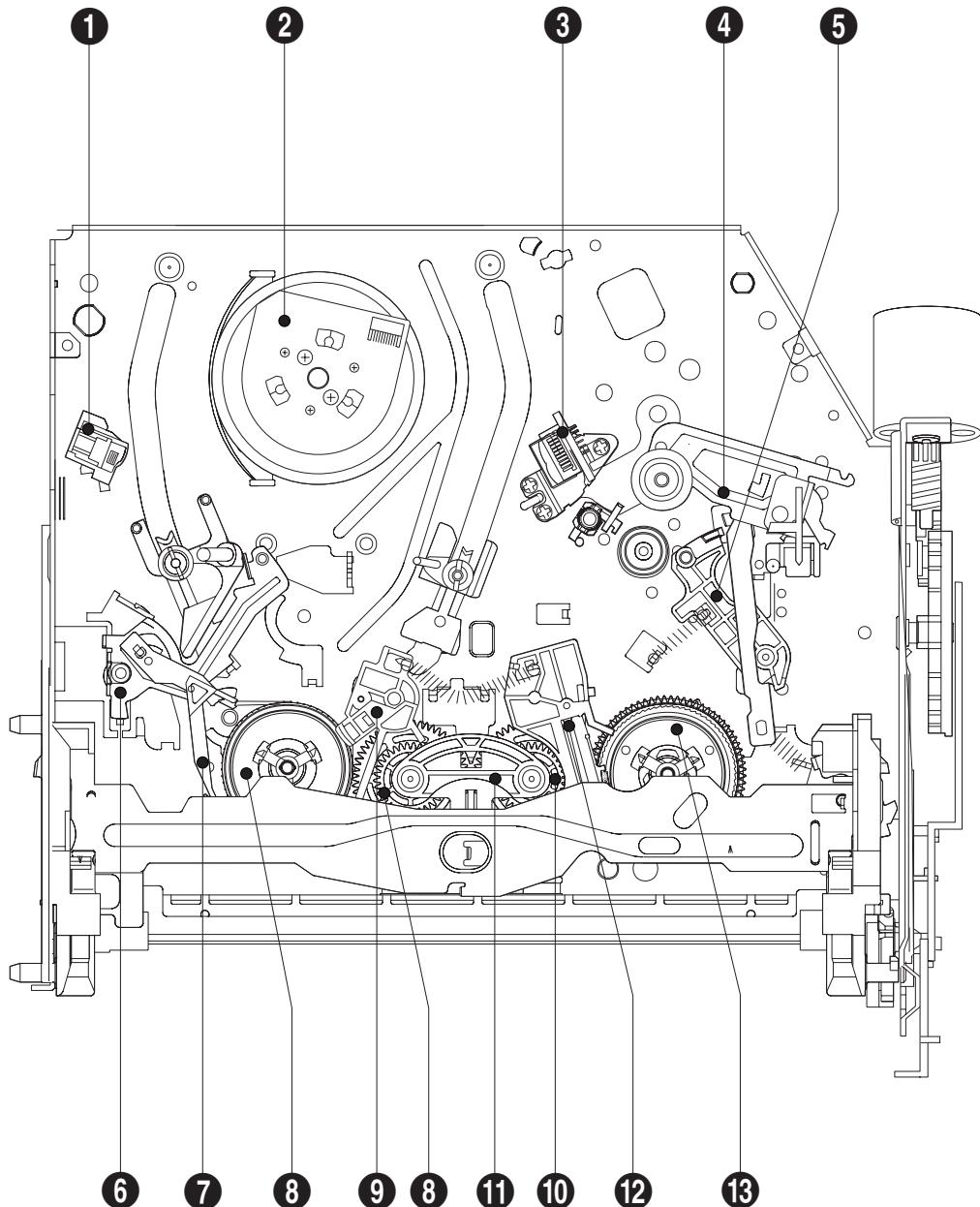


Fig. 3-2 Top Parts Location-2

- ① FE HEAD
- ② CYLINDER ASS'Y
- ③ ACE HEAD ASS'Y
- ④ LEVER UNIT PINCH ASS'Y
- ⑤ LEVER #9 GUIDE ASS'Y
- ⑥ LEVER TENSION ASS'Y
- ⑦ BAND BRAKE ASS'Y

- ⑧ DISK S REEL
- ⑨ LEVER S BRAKE ASS'Y
- ⑩ GEAR IDLE
- ⑪ LEVER IDLE
- ⑫ LEVER T BRAKE ASS'Y
- ⑬ DISK T REEL

### 3-2-2Bottom View

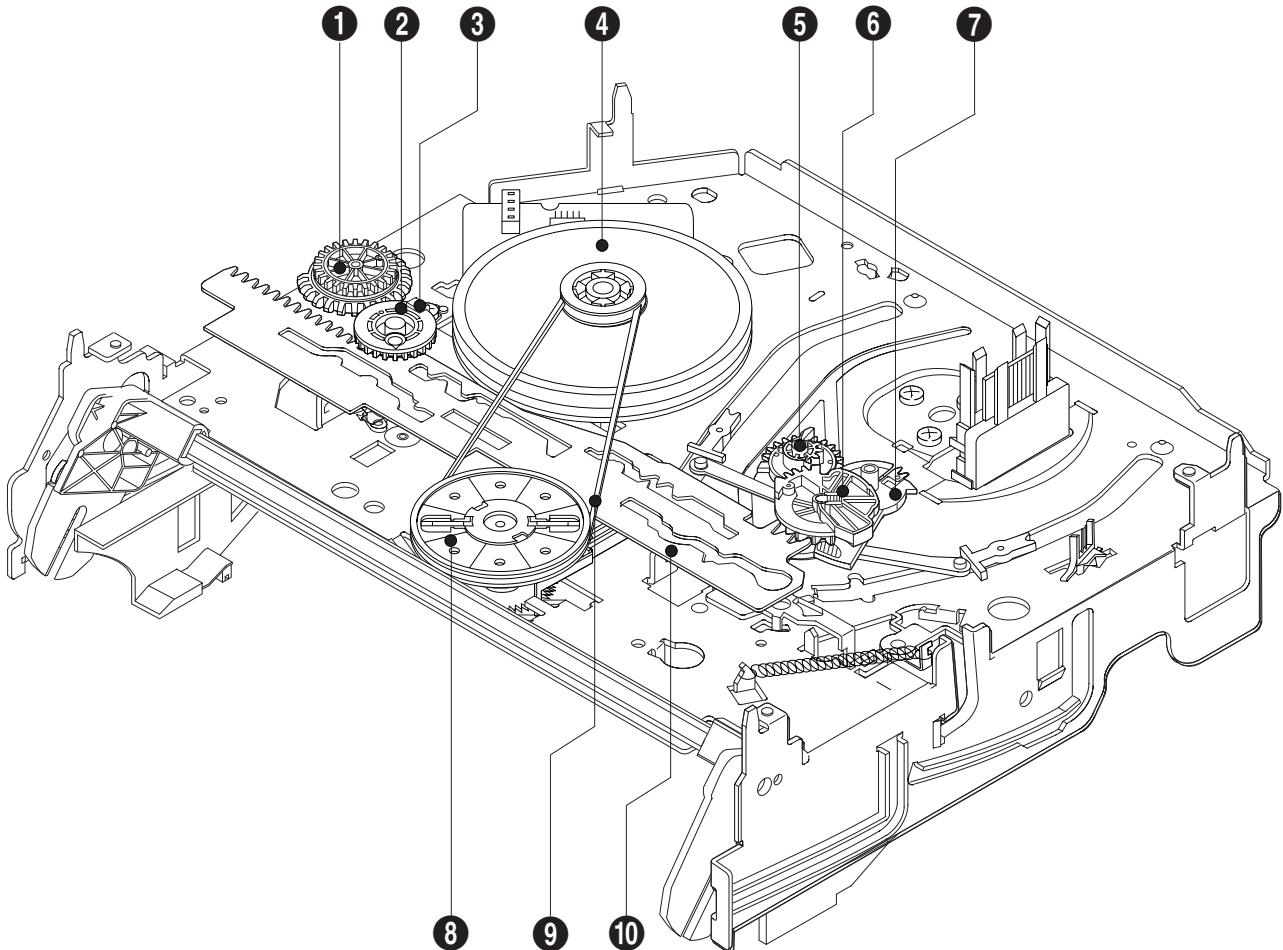


Fig. 3-3 Bottom Parts Location

- ① GEAR JOINT 1
- ② GEAR JOINT 2
- ③ BRACKET GEAR
- ④ MOTOR CAPSTAN ASS'Y
- ⑤ LEVER T LOAD ASS'Y
- ⑥ GEAR LOADING DRIVE
- ⑦ LEVER S LOAD ASS'Y
- ⑧ HOLDER CLUTCH ASS'Y
- ⑨ BELT PULLEY
- ⑩ SLIDER CAM

## 3-3 Main Deck

### 3-3-1 Lever FL Door Removal

- 1) Push the Holder FL Cassette Ass'y ① about 20mm in the direction of arrow "A".
- 2) Rotate the Lever FL Door ② in the direction of arrow "B".
- 3) Release the Hook ③ and Remove the Lever FL Door ② in the direction of arrow "C".

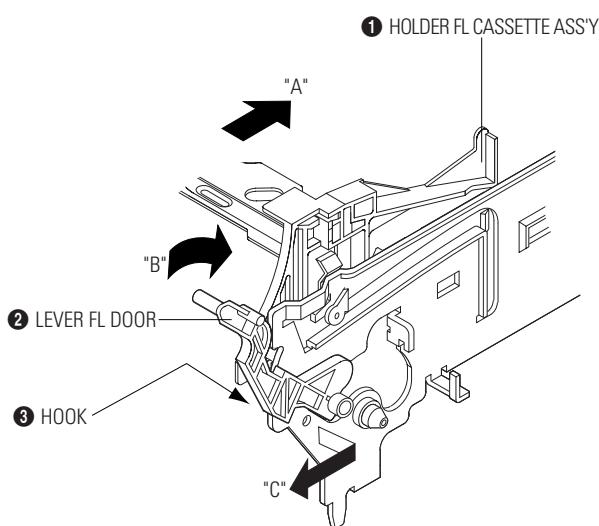


Fig. 3-4 Lever FL Door Removal

### 3-3-2 Holder FL Cassette Ass'y Removal

- 1) Pull the Holder FL Cassette Ass'y ① to the eject position.
- 2) Pull the Holder FL Cassette Ass'y ① as grasping the Holder FL Cassette Ass'y ① and Lever FL Cassette-R ② in the same time to release hooking from Main Base until the Boss [A] of Holder FL Cassette Ass'y ① is taken out from the Rail [B].
- 3) Lift the Holder FL Cassette Ass'y ①, in this time, you have to grasp the Lever FL Cassette-R ② Continuously until the Holder FL Cassette Ass'y ① is taken out completely.

**Note :** Be sure to insert Lever FL Cassette-R ② in the direction of "A" to prevent separation and breakage of the Lever FL Cassette-R ② at disassembling and reassembling.

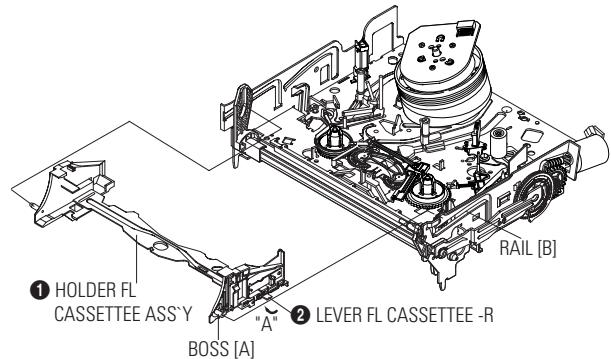


Fig. 3-5 Holder FL Cassette Ass'y Removal

### 3-3-3 Slider FL Drive, Gear FL Cam Removal

- 1) Pull the Slider FL Drive ① to the front direction.
- 2) Remove the Slider FL Drive ① in the direction of arrow. (Refer to Fig. 3-6)
- 3) Remove the Gear FL cam ②.

**Note :** When reinstalling be sure to reassemble Slider FL drive ① after you insert the Boss of Lever FL ARM-R in Groove of Slider Fl drive ①.

**Assembly :** Align the Gear FL Cam ① with the Gear worm wheel Post as shown drawing. (Refer to Timing point)

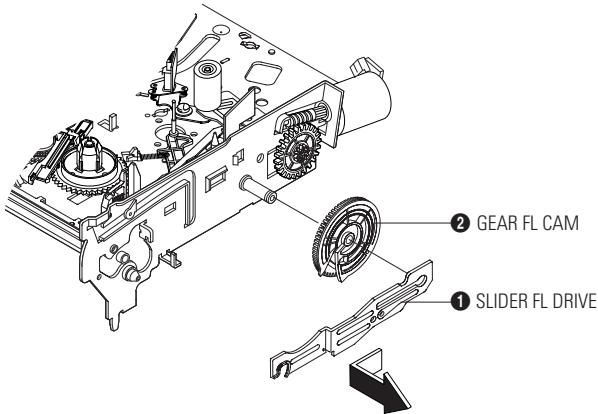


Fig. 3-6 Slider FL Drive Removal

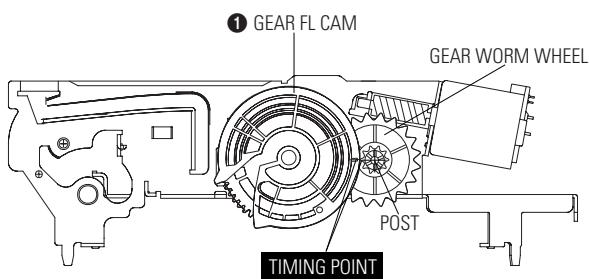


Fig. 3-7 Gear FL Cam, Gear Worm

### 3-3-4 Lever FL Arm Ass'y Removal

- 1) Push the hole "A" in the direction of arrow "B" use the pin.(about Dia. 2.5)
- 2) Pull out the Lever FL Arm Ass'y ① from the Boss of Main Base.
- 3) Remove the Lever FL Arm Ass'y ① in the direction of arrow "C".

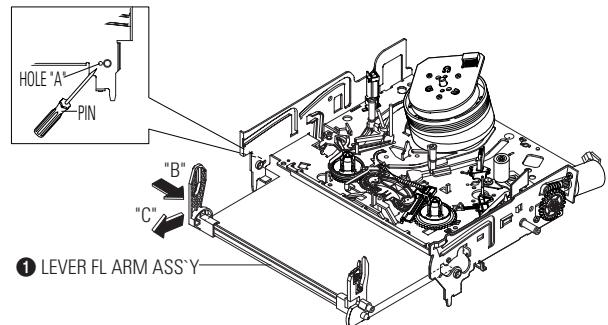


Fig. 3-8 Lever FL Arm Ass'y Removal

### 3-3-5 Gear Worm Wheel Removal

1) Remove the Gear Worm wheel ①.

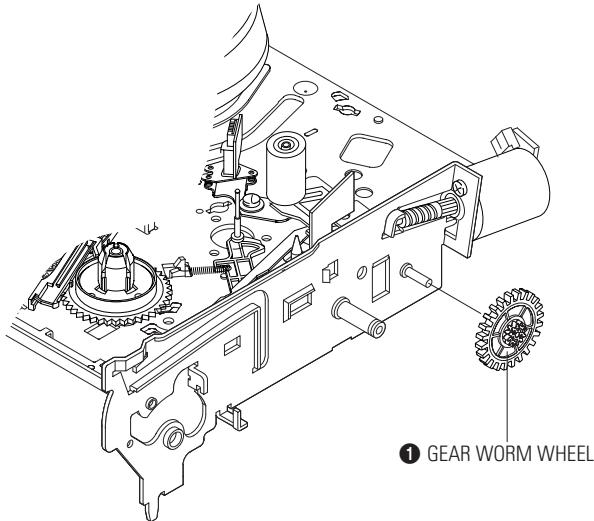


Fig. 3-9 Gear Worm Wheel Removal

### 3-3-6 Motor Loading Ass'y Removal

1) Remove the screw ①.

2) Remove the Motor Loading Ass'y ②.

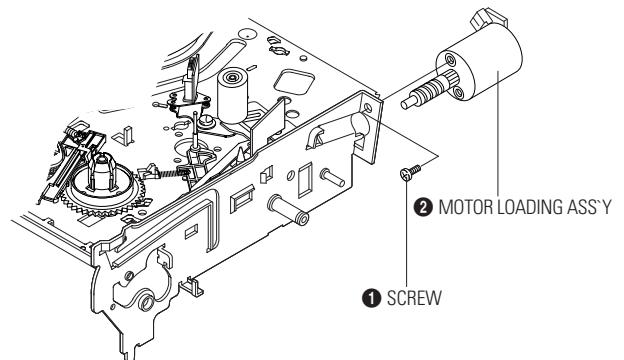


Fig. 3-10 Motor Loading Ass'y Removal

### 3-3-7 Bracket Gear, Gear Joint 2, 1 Removal

- 1) Remove the SCREW ①.
- 2) Remove the Bracket Gear ②.
- 3) Remove the Gear Joint 2 ③.
- 4) Remove the Gear Joint 1 ④.

#### Assembly :

- 1) Be sure to align dot mark of Gear Joint 1 ① with dot mark of Gear Joint 2 ② as shown Fig 3-12.  
(Refer to Timing point1)
- 2) Confirm the Timing Point 2 of the Gear Joint 2 ② and Slider Cam ③.

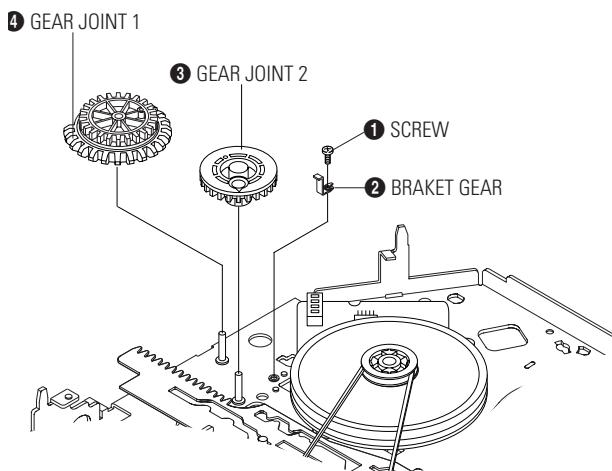


Fig. 3-11 Bracket Gear, Gear Joint 1,2 Removal

### 3-3-8 Gear Loading Drive, Slider Cam, Lever Load S, T Ass'y Removal

- 1) Remove the Belt Pulley. (Refer to Fig. 3-30)
- 2) Remove the Gear Loading Drive ① after releasing Hook [A] in the direction arrow as shown in detail drawing.
- 3) Remove the Slider Cam ②.
- 4) Remove the Lever Load ③, Link Load ⑤ & Lever Load ④, Link Load ⑥.

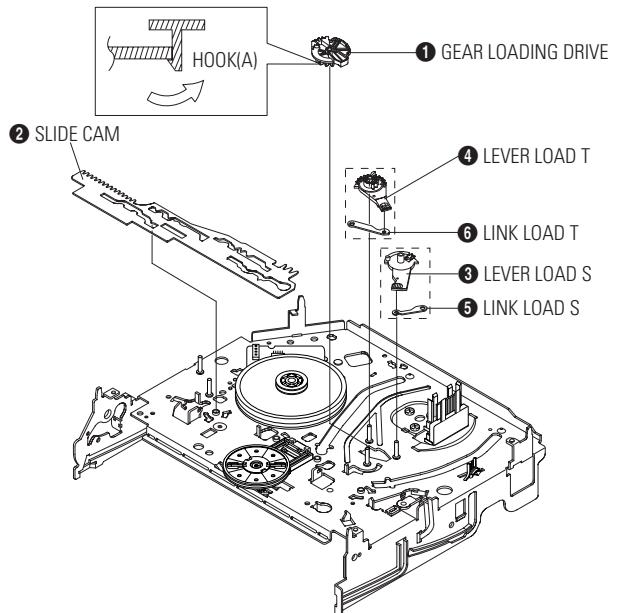


Fig. 3-13 Gear Loading Drive, Slider Cam, Lever T, S Load Ass'y Removal

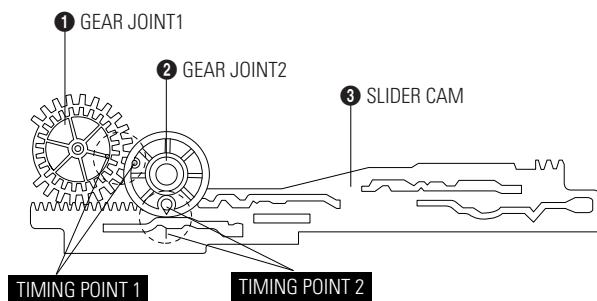


Fig. 3-12 Gear Joint 1,2 Assembly

### 3-3-9 Gear Loading Drive, Slider Cam, Lever Load S, T Ass'y Assembly

- 1) When reinstalling, be sure to align dot of Lever Load T Ass'y ① with dot of Lever Load S Ass'y ② as shown in drawing. (Refer to Timing Point 1).
- 2) Insert the Pin A,B,C,D into the Slider Cam ③ hole,
- 3) Be sure to align dot of Lever Load T ① and dot of Gear Loading Drive ④, (Refer to Timing Point 2).
- 4) Align dot of Gear Loading drive ④ with mark of Slider Cam ③ as shown in drawing(Refer to Timing Point 3).

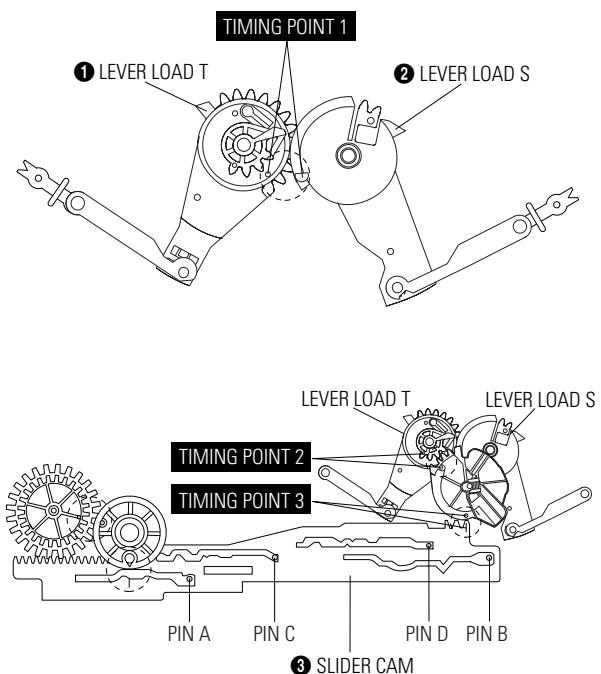


Fig. 3-14 Gear Loading Drive, Slider Cam, Lever Load S, T Ass'y Assembly

### 3-3-10 Lever Pinch Drive, Lever Tension Drive Removal

- 1) Remove the Lever Pinch Drive ①, Lever Tension Drive ②.

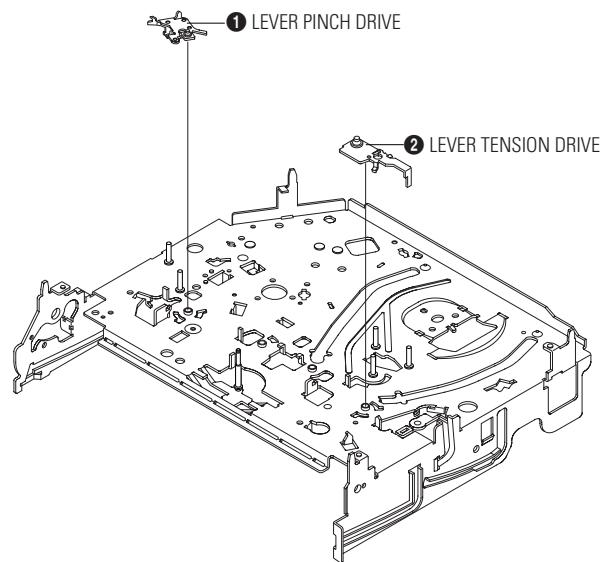


Fig. 3-15 Lever Pinch Drive, Lever Tension Drive Removal

### 3-3-11 Lever Tension Ass'y, Band Brake Ass'y Removal

- 1) Remove the Lever Brake S Ass'y (Refer to Fig 3-17).
- 2) Remove the Spring Tension Lever ①.
- 3) Rotate stopper of Main Base in the direction of arrow "A".
- 4) Lift the Lever Tension Ass'y ② & Band brake Ass'y ③.

**Note :**

- 1) When replacing the Lever Tension Ass'y ②, be sure to apply Grease on the post,
- 2) Take care not to touch stain on the felt side, and not to be folder and broken Band brake Ass'y
- 3) After Lever Tension Ass'y seated, Rotate stopper of Main Base to the Mark[B].

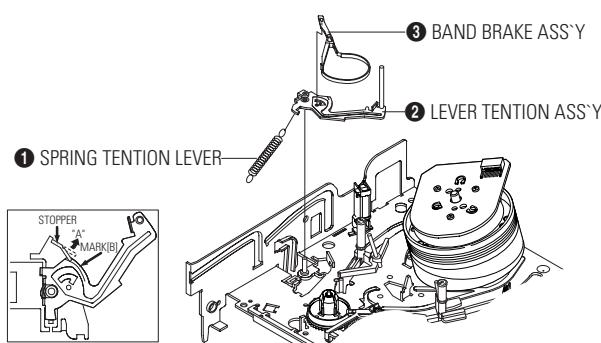


Fig. 3-16 Lever Tension Ass'y,  
Band Brake Ass'y Removal

### 3-3-12 Lever Brake S, T Ass'y Removal

- 1) Release the Hook [A] and the Hook [B], [C] in the direction of arrow as shown in Fig 3-17.
- 2) Lift the Lever S, T Brake Ass'y ①, ② with spring brake ③.

**Assembly :**

- 1) Assembly the Lever S Brake Ass'y ① on the Main Base.
- 2) Assembly the Lever T Brake Ass'y ② with spring brake ③.

**Note :** Take extreme care not to be folded and transformed Spring Brake at removing or re-installing.

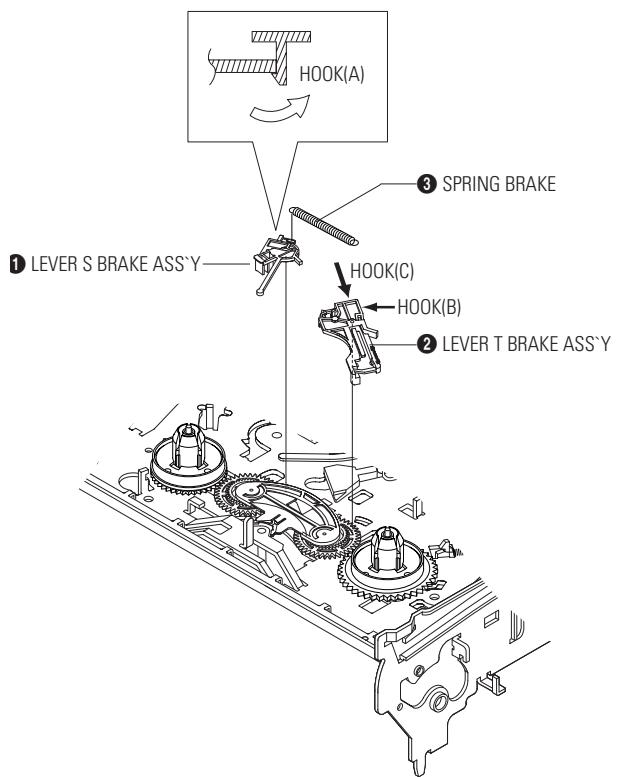


Fig. 3-17 Lever Brake S, T Ass'y Removal

### 3-3-13 Gear Idle Ass'y Removal

- 1) Push the Lever Idle ① in the direction of arrow "A", "B".
- 2) Lift the Lever Idle ①.

#### Assembly :

- 1) Apply oil in two Bosses of Lever Idle ①.
- 2) Assemble the Gear Idle ② with the Lever Idle ①.

**Note :** When replacing the Gear Idle ②, be sure to add oil in the boss of Lever Idle ①.

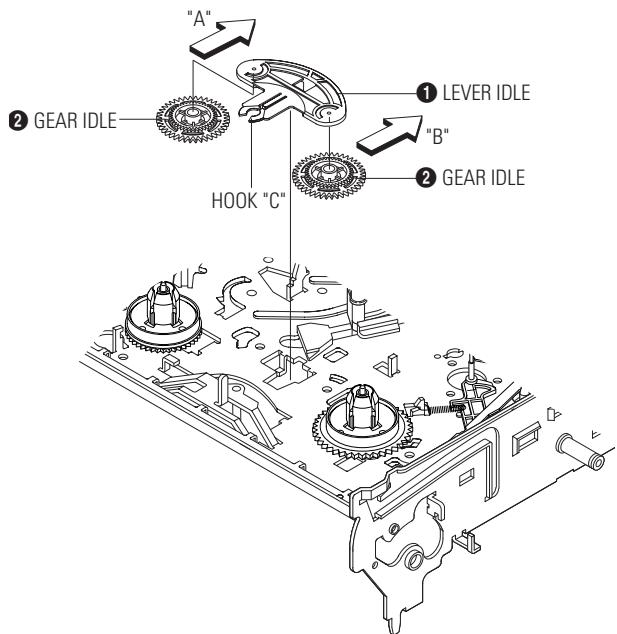


Fig. 3-18 Gear Idle Ass'y Removal

### 3-3-14 Disk S, T Reel Removal

- 1) Lift the Disk S, T Reel ①, ②.

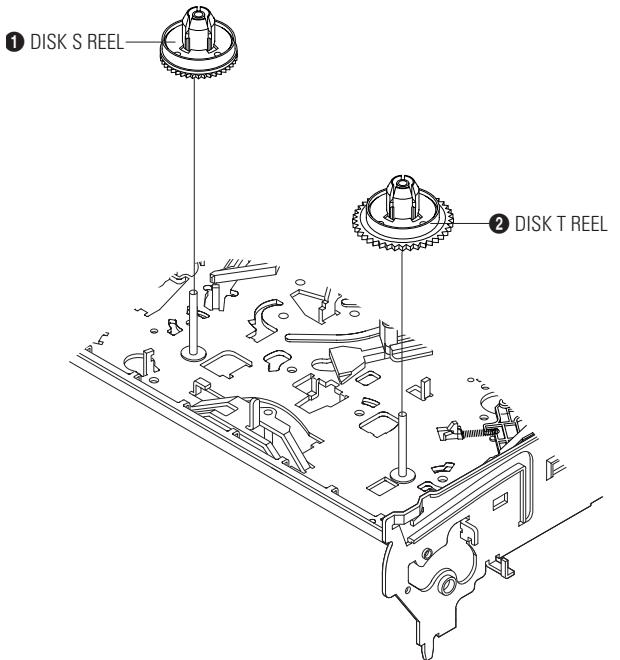


Fig. 3-19 Disk S, T Reel Removal

### 3-3-15 Holder Clutch Ass'y Removal

- 1) Remove the Washer Slit ①.
- 2) Lift the Holder Clutch Ass'y ②.

**Note :** When you reinstall Holder Clutch Ass'y

- 1) Check the condition of spring as shown in detail A.
- 2) Don't push Holder Clutch Ass'y down with excessive force Just insert Holder Clutch Ass'y into post center with dead force and Rotate it smoothly.

Be sure to confirm that spring is in the slit of Gear Center Ass'y as shown in detail B.

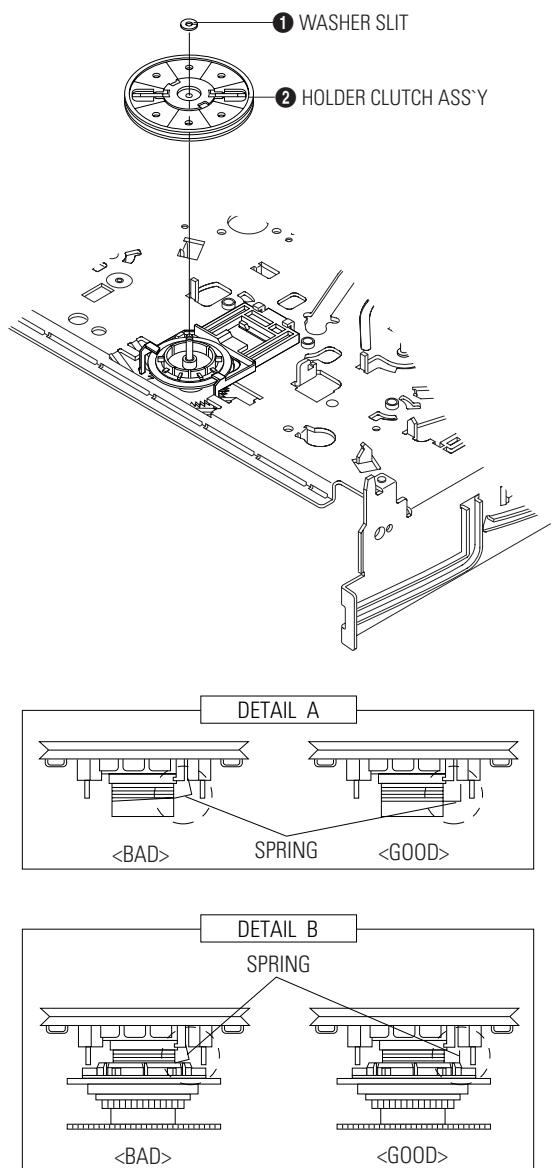


Fig. 3-20 Holder Clutch Ass'y Removal

### 3-3-16 Lever Up Down Ass'y, Gear Center Ass'y Removal

- 1) Remove the 2 hooks in the direction of arrow as shown Fig. 3-21 and lift the Lever Up Down Ass'y ①.
- 2) Lift the Gear Center Ass'y ②.

#### Assembly :

- 1) Insert the Lever Up Down Ass'y ① in the rectangular holes on Main Base as shown in Fig 3-22.
- 2) Lift the Lever Up Down Ass'y ① about 35°. (Refer to Fig 3-22)
- 3) Insert Ring of the Gear Center Ass'y ② in the Guide of the Lever Up Down Ass'y ①.
- 4) Insert the Gear Center Ass'y ② in the post on Main Base.
- 5) Push down the Lever Up Down Ass'y ① for locking of the Hook.

#### Note :

- 1) Take care not to separate and sentence does not mark sense.
- 2) Be sure to confirm that Ring of the Gear Center Ass'y ② is in the Guide of the Lever Up Down Ass'y ① after finishing assembly of Lever Up Down Ass'y ① and Gear Center Ass'y ②.

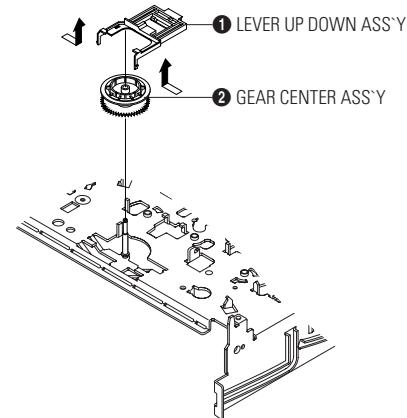


Fig. 3-21 Lever Up Down Ass'y Removal

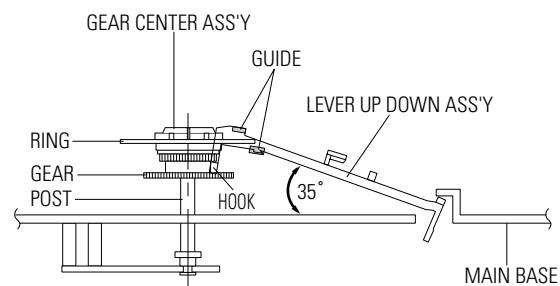


Fig. 3-22 Lever Up Down Ass'y Removal

### 3-3-17 Guide Cassette Door Removal

- 1) Lift the Hook [A].
- 2) Rotate the Guide Cassette Door ① in the direction of arrow.

**Note :** After reinstalling the Guide Cassette Door ① sure the Hook [A].

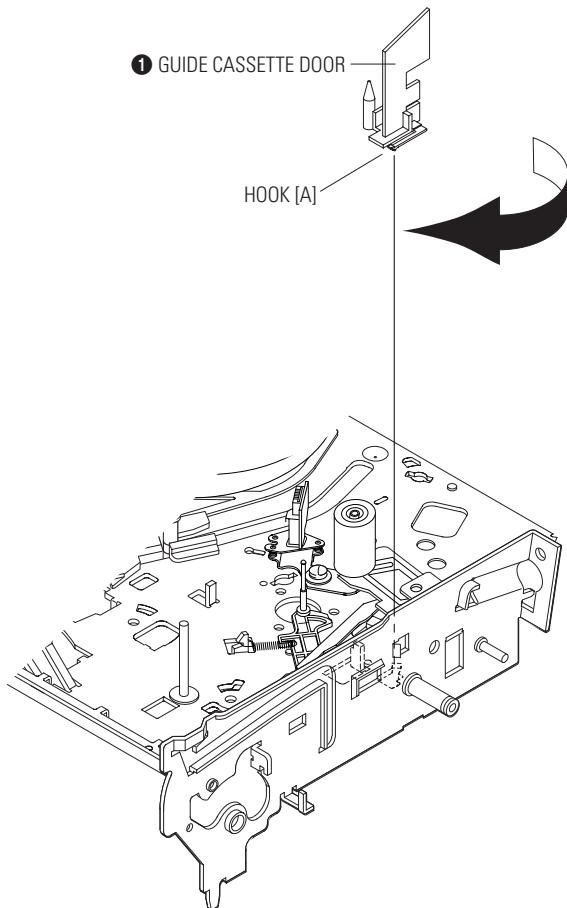


Fig. 3-23 Guide Cassette Door Removal

### 3-3-18 Lever Unit Pinch Ass'y, Plate Joint, Spring Pinch Drive Removal

- 1) Lift the Unit Pinch Ass'y ①.
- 2) Remove the Plate Joint ② from Lever Pinch Drive.
- 3) Remove the Spring Pinch Drive ③.

**Note :**

- 1) Take extreme care not to touch the grease on the Roller Pinch.
- 2) When reinstalling, be sure to apply grease on the post pinch roller.

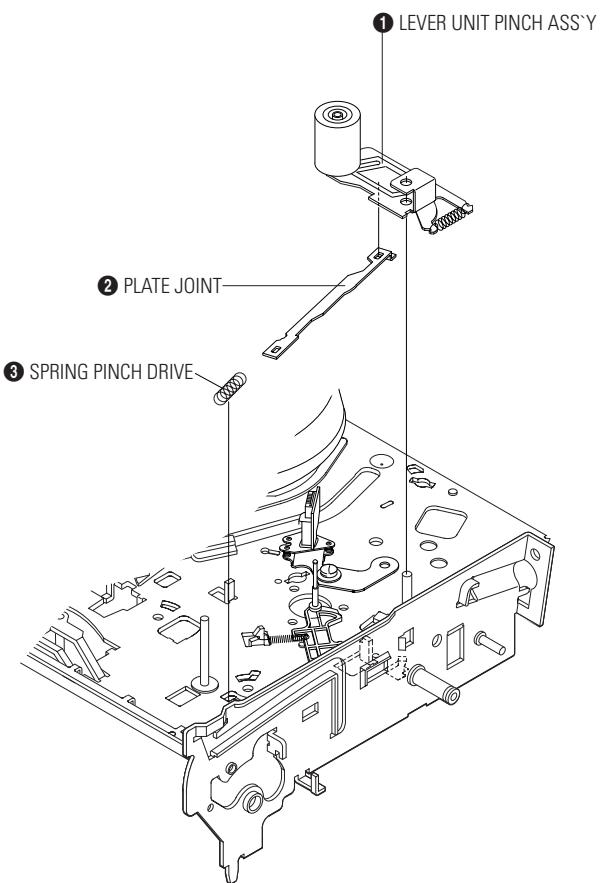


Fig. 3-24 Lever Unit Pinch Ass'y, Plate Joint, Spring Pinch Drive Removal

### 3-3-19 Lever #9 Guide Ass'y Removal

- 1) Remove the Spring #9 Guide ①.
- 2) Lift the Spring #9 Guide Ass'y ② in the direction of arrow "A".

**Note :**

- 1) Take extreme care not to get grease on the tape Guide Post.
- 2) After reinstalling, check the bottom side of the Post #9 Guide to the top side of Main Base.

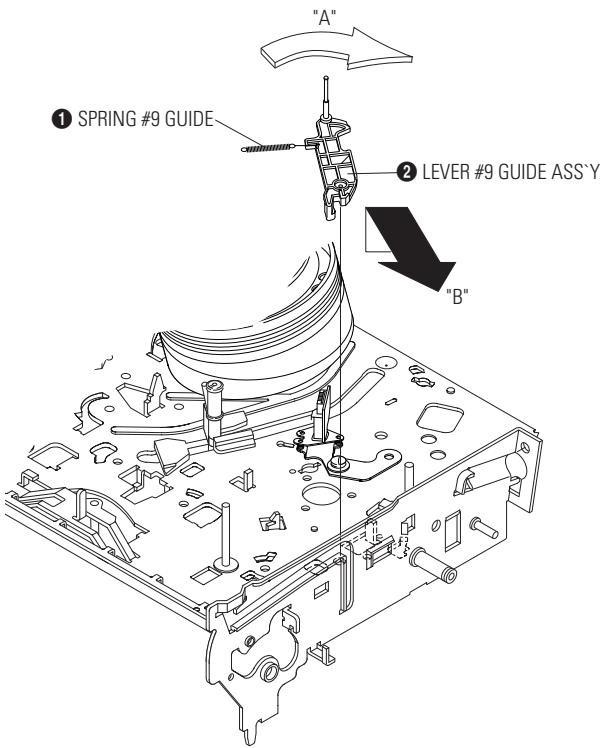


Fig. 3-25 Lever #9 Guide Ass'y Removal

### 3-3-20 FE Head Removal

- 1) Remove the screw ①.
- 2) Lift the FE Head ②.

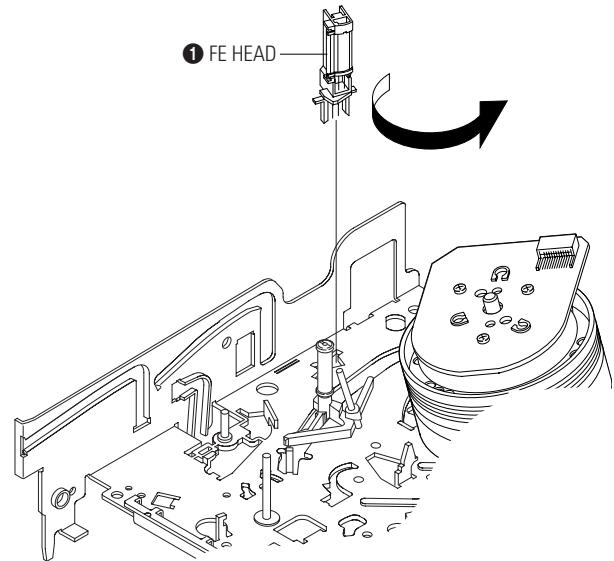


Fig. 3-26 FE Head Removal

### 3-3-21 ACE Head Removal

- 1) Pull out the FPC from connector of ACE Head Ass'y ②.
- 2) Remove the screw ①.
- 3) Lift the ACE Head Ass'y ②.

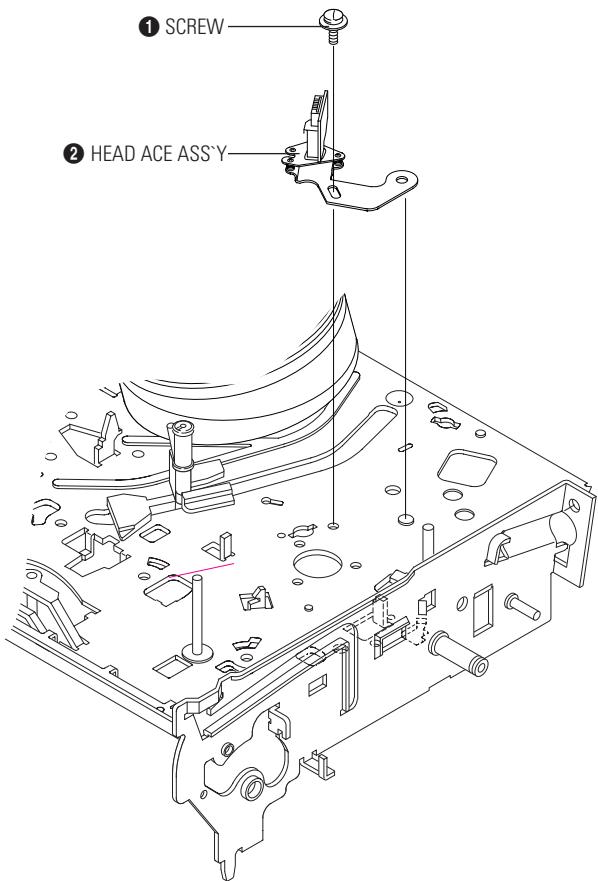


Fig. 3-27 ACE Head Removal

### 3-3-22 Slider S, T Ass'y Removal

- 1) Move the Slider S, T Ass'y ①, ② to slot, and then lift it to remove. (Refer to arrow)

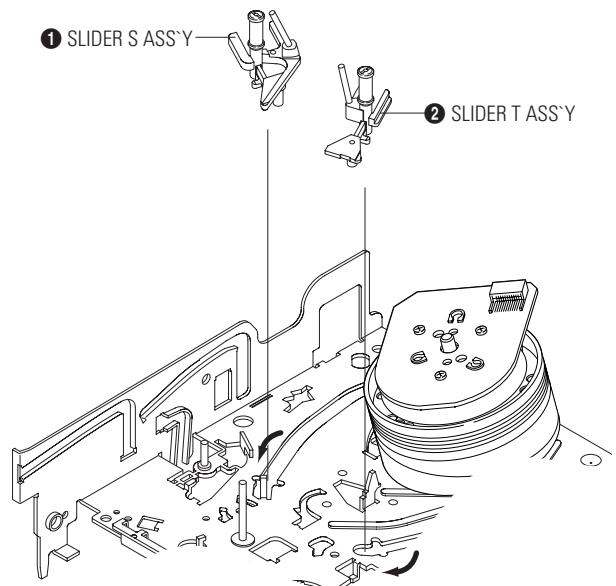


Fig. 3-28 Slider S, T Ass'y Removal

### 3-3-23 Plate Ground Deck, Cylinder Ass'y Removal

- 1) Remove the 3 Screws ①.
- 2) Lift the Plate Ground Deck ②.
- 3) Lift the Cylinder Ass'y ③.

#### Assembly :

- 1) Match the 3 holes in the bottom of Cylinder ass'y ③ to the 3 holes of Main Base as attending not to drop or knock the Cylinder ass'y ③.
- 2) Tighten the 1 Screw ①.
- 3) Match the Plate Ground Deck ② to the Hole of Base Main.
- 4) Tighten the other 2 Screws ①.

#### Note :

- 1) Take care not to touch the Cylinder Ass'y ③ and the tape guide post at reinstalling.
- 2) When reinstalling, Don't push down too much on Screw Driver.

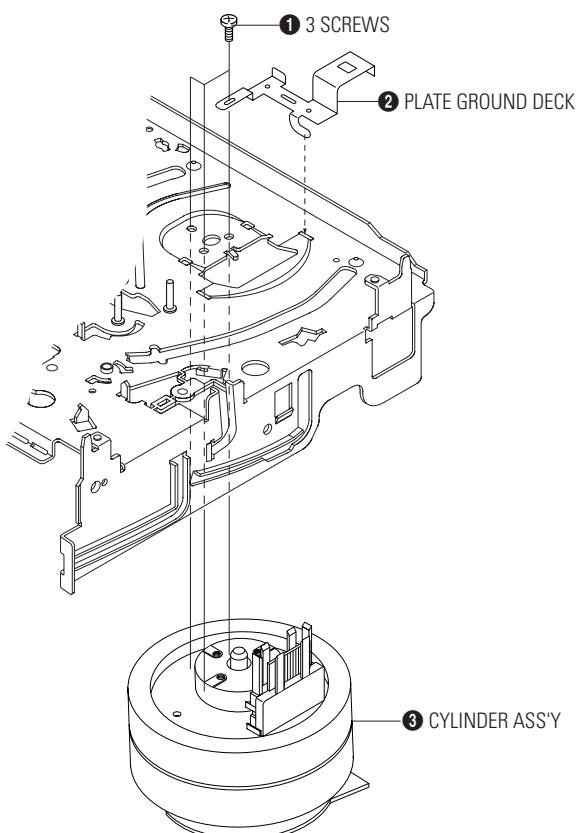


Fig. 3-29 Plate Ground Deck, Cylinder Ass'y Removal

### 3-3-24 Belt Pulley Removal

- 1) Remove the Belt Pulley ①.

**Note :** Take extreme care not to get grease on Belt Pulley ① at assembling or reassembling.

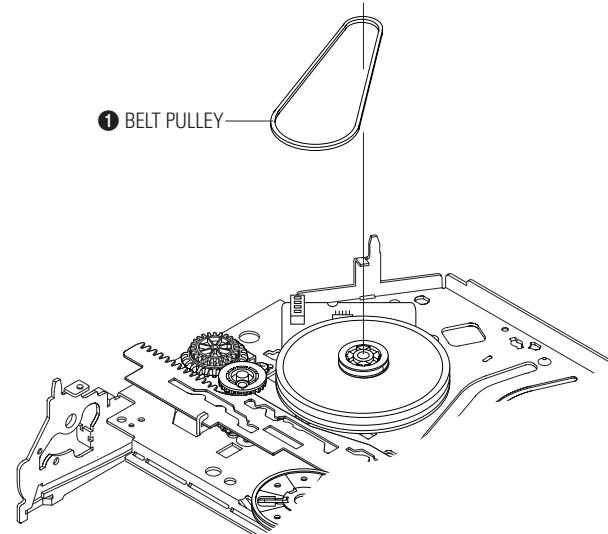


Fig. 3-30 Belt Pulley Removal

### 3-3-25 Level Head Cleaner Ass'y Removal (Optional)

- 1) Release the Hook ①.
- 2) Lift the Lever Head Cleaner Ass'y ②.

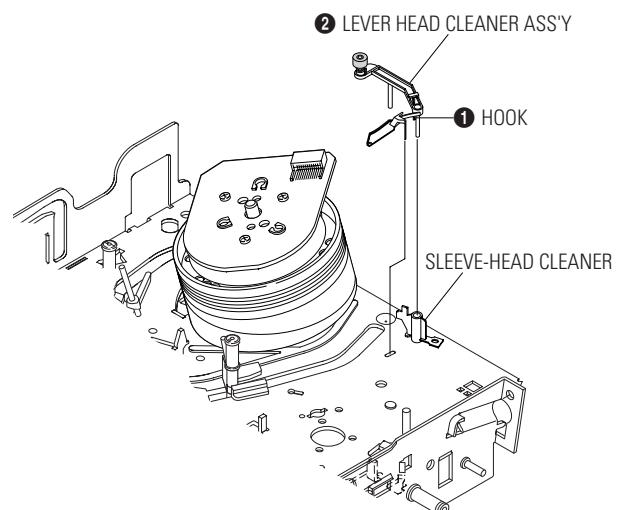


Fig. 3-31 Level Head Cleaner Ass'y Removal

### 3-3-26 Damper Capstan, Motor Capstan Ass'y Removal

- 1) Remove the Damper Capstan ① in the direction of arrow.
- 2) Remove the 3 Screws ②.
- 3) Remove the Motor Capstan Ass'y ③.

#### Assembly :

- 1) Match the 3 holes of Motor Capstan Ass'y ③ to the 3 holes of Main Base. Be careful not to drop or knock the Motor Capstan Ass'y ③.
- 2) Tighten the 3 Screws ② in the direction of arrow as shown detail drawing.
- 3) Assemble the Damper Capstan ①.

**Note :** After tightening screws, check if there is gap between the head of screws and the top side of Main Base. There should have no gap between the head of screws and the top side of Main Base. After reinstalling, adjusting the tape transport system again.

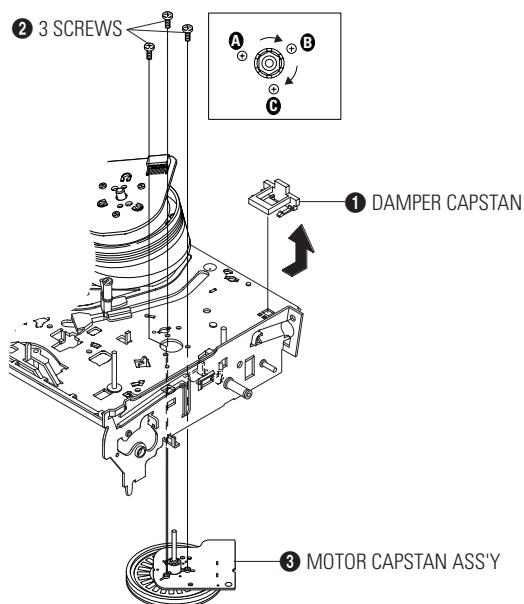


Fig. 3-32 Damper Capstan, Motor Capstan Ass'y Removal

### 3-3-27 How to Eject the Cassette Tape (If the unit does not operate on condition that is inserted into housing ass'y)

- 1) Turn the Gear worm ① clockwise with screw driver.(Refer to arrow)  
(Other method : Remove the Screw of Motor Load Ass'y, Separate the Motor Load Ass'y)

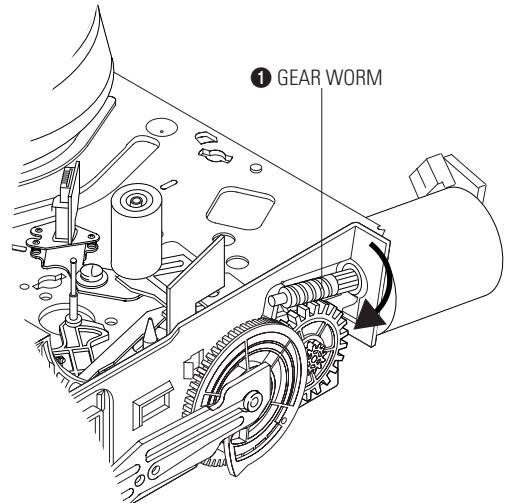


Fig. 3-33 How to Eject the Cassette Tape

- 2) When Slider S,T are approached in the position of unloading, rotate holder Clutch counter-clockwise after inserting screw driver in the hole of frame's bottom in order to wind the unwinded tape.  
(Refer to Fig.3-34)  
(If you rotate Gear Worm 1 continuously when tape is in state of unwinding, you may cause a tape contamination by grease and tape damage.  
Be sure to wind the unwinded tape in the state of set horizontally.)
- 3) Rotate Gear Worm ① clockwise using screw driver again up to the state of eject mode and then pick out the tape.(Refer to Fig.3-33)

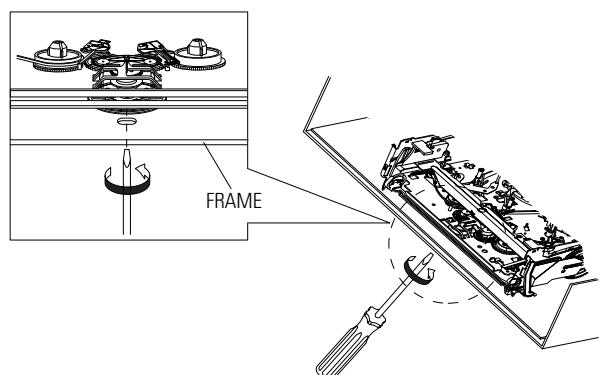


Fig. 3-34

### 3-4 Tape Transport System and Adjustment Locations

The tape transport system has been adjusted precisely in the factory. Alignment is not necessary except for the following :

- 1) Noise observed on the screen.
- 2) Tape damage.
- 3) Parts replacement in the tape transport system.

Lower flange height of tape guide is used as the reference for the transport adjustment.

To maintain the height of the tape guide and prevent damage, do not apply excessive force onto the main base.

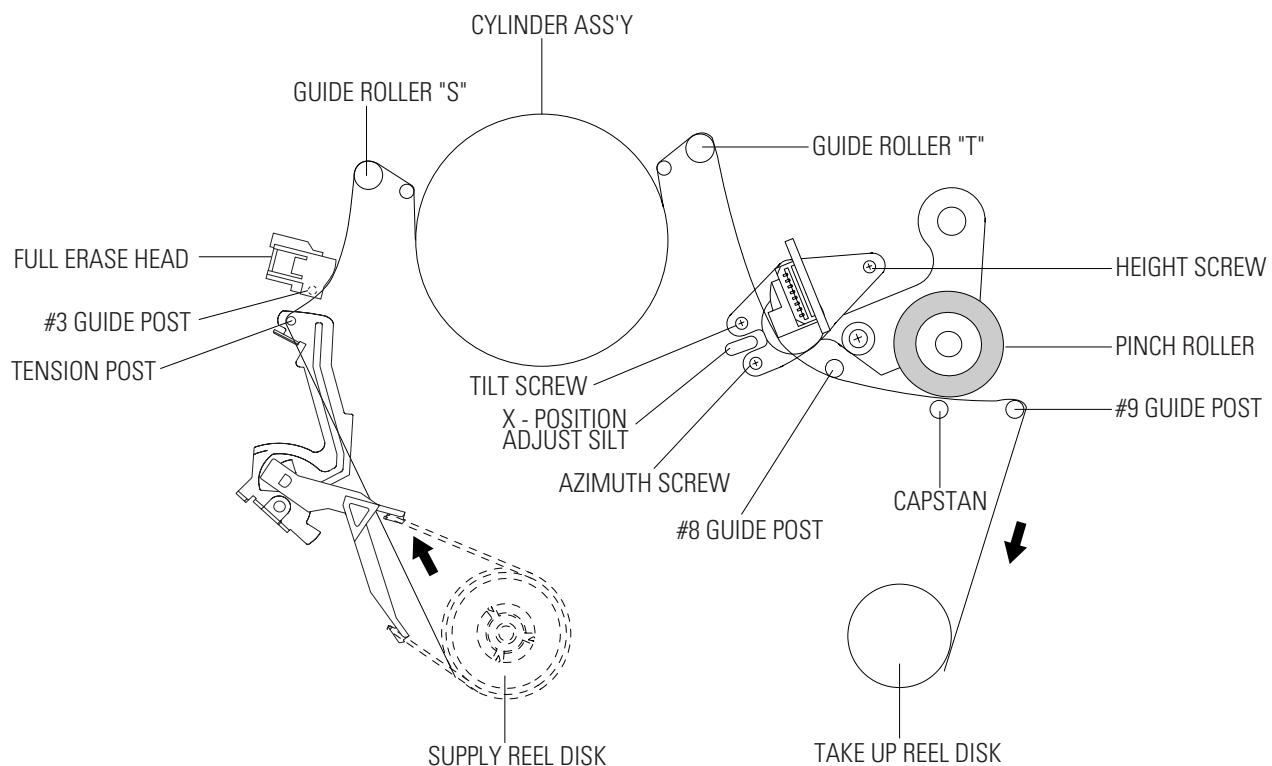


Fig. 3-4-1 Location of Tape Transport Adjustment

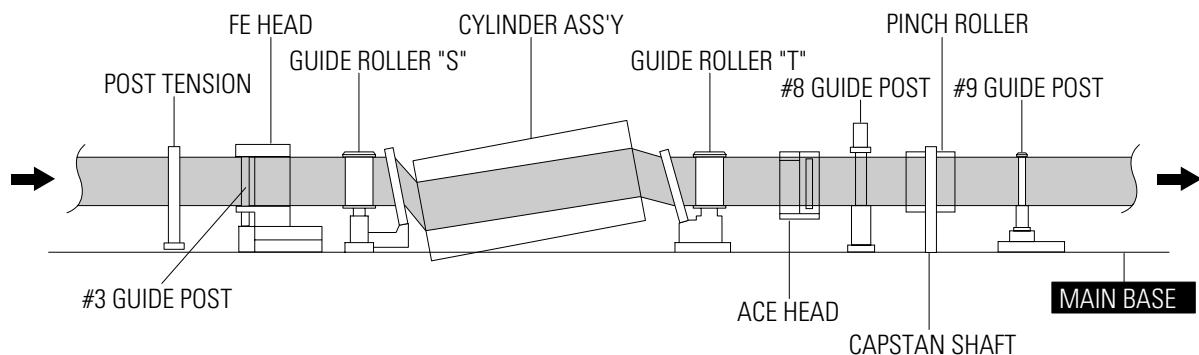


Fig. 3-4-2 Tape Travel Diagram

## 3-5 Tape Transport System Adjustment

When parts are replaced, perform the required adjustments by referring to procedures for the tape transport system. If there are any changes to the tape path, first run a T-120 tape and make sure excessive tape wrinkle does not occur at the tape guides.

- 1) If tape wrinkle is observed at the guide roller S, T, turn the guide roller S, T until wrinkle disappears.
- 2) If the tape wrinkle is still observed at the tape guide, perform the tilt adjustment of the ACE head.  
(See "2. Alignment and Adjustment" of the Service Manual for Test Point Locations.)

### 3-5-1 ACE Head Assembly Adjustment

#### 3-5-1(a) ACE HEAD HEIGHT ADJUSTMENT

- 1) Run the alignment tape (Color bar) in the playback mode.
- 2) Observe surface of the audio head using a dental mirror.
- 3) Turn screw (C) clockwise or counterclockwise until the gap of lower tape edge and the lower edge of the control head is about 0.25mm.  
(Refer to Fig. 3-5-1 and 3-5-2)

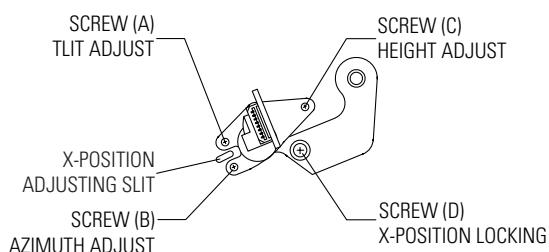


Fig. 3-5-1 Location of ACE Head Adjustment Screw

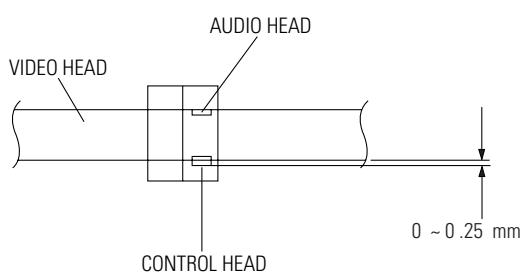


Fig. 3-5-2 ACE Head Height Adjustment

#### 3-5-1(b) ACE HEAD TILT ADJUSTMENT

- 1) Playback a blank tape and observe the position of the tape at the lower flange of tape guide.
- 2) Confirm that there is no curl or wrinkle at the lower flange of tape guide as shown in Fig. 3-5-3 (B).
- 3) If a curl or wrinkle of the tape occurs, slightly turn the screw (A) tilt adjust on the ACE head ass'y.
- 4) Reconfirm the ACE head height.

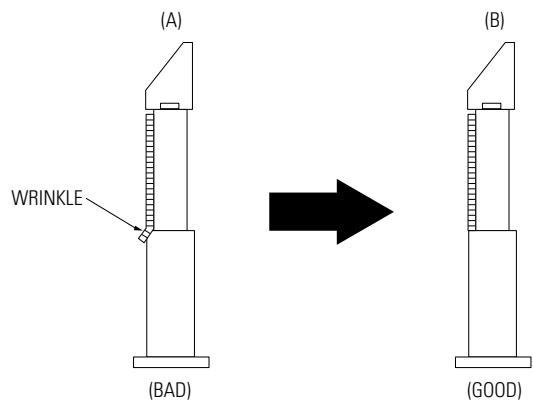


Fig. 3-5-3 Tape Guide Check

#### 3-5-1(c) AUDIO AZIMUTH ADJUSTMENT

- 1) Load alignment tape (Mono scope) and playback the NTSC : 7KHz (PAL : 6KHz) signal.
- 2) Connect channel-1 scope probe to audio output. (Monitor Output)
- 3) Adjust screw (B) to achieve maximum audio level. (See Fig. 3-5-1)

#### 4-5-1(d) ACE HEAD POSITION (X-POINT) ADJUSTMENT

- 1) See = (Alignment and Adjustment) for ACE Head position (X-Point) adjustment.

### (Alignment and Adjustment)

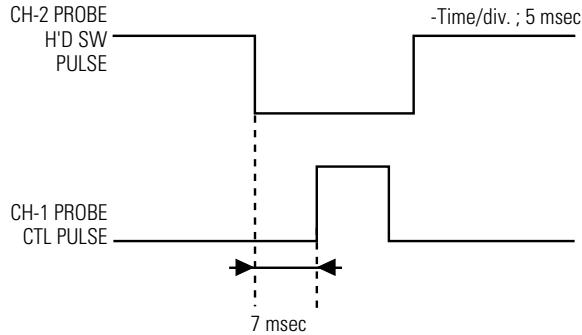
1. Load alignment tape (Mono Scope) and play back a 7KHz signal. (SP Mode)
2. Connect CH1 scope probe to J008 or J009 (Monitor Audio Out) CH2 scope probe to TPM01 H'D SW Adjust sync to Channel 1.
- 3) Set the control pulse to 7 msec using the Fine tracking buttons +/- on the remote control. (see Fig. (A),(B))
- 4) Connect CH1 scope probe to TPM01 Video ENV.
- 5) Insert the adjusting driver into the X-position adjusting gear and adjust the driver for maximum envelope waveform.

Note:

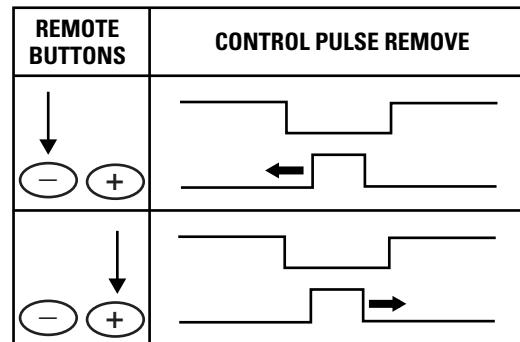
Do not adjust the X-point using excessive force. After turning the X-point adjusting screw (D) counterclockwise a little, perform the adjustment and then tighten the screw. (See Fig. 3-5-1)

### SCOPE SETTINGS

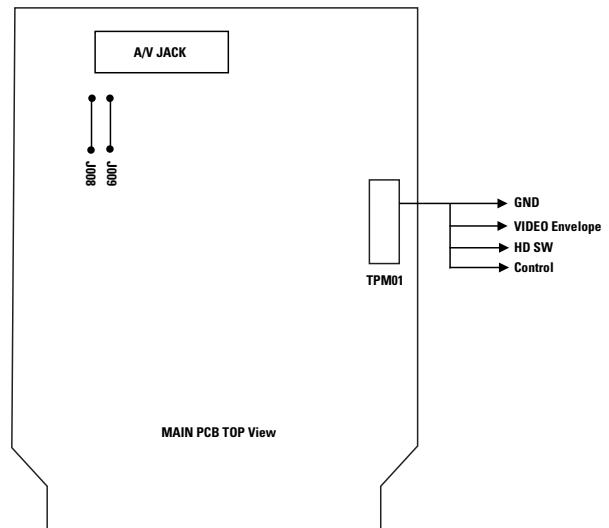
- ◆ Setting of Scope ◆
- Volt/div. ; CH-1 = 0.1V  
CH-2 = 0.2V



(A) Tracking Preset Adjustment (4HD/6HD)



(B) Control Pulse Adjustment



(C) MAIN PCB VCR TP Point

### 3-5-2 Linearity adjustment (Guide roller S, T adjustment)

- 1) Playback the Mono Scope alignment tape (SP mode).
- 2) Observe the video envelope signal on an oscilloscope (triggered by the video switching pulse).
- 3) Make sure the video envelope waveform (at its minimum) meets the specification shown in Fig. 3-5-4.  
If it does not, adjust as follows :

**Note :**

- a=Maximum output of the video RF envelope.
- b=Minimum output of the video RF envelope at the entrance side.
- c=Minimum output of the video RF envelope at the center point.
- d=Maximum output of the video RF envelope at the exit side.
- 4) If the section A in Fig. 3-5-5 does not meet the specification, adjust the guide roller S up or down.
- 5) If the section B in Fig. 3-5-5 does not meet the specification, adjust the guide roller T up or down.
- 6) Play back the Mono Scope alignment tape (SP mode).
- 7) Connect an oscilloscope CH-1 to the Envelope and CH-2 to the H'D SW Pulse for triggering. (TPM01)
- 8) Turn the guide roller heads with a flat head (■) driver to obtain a flat video RF envelope as shown in Fig. 3-8.

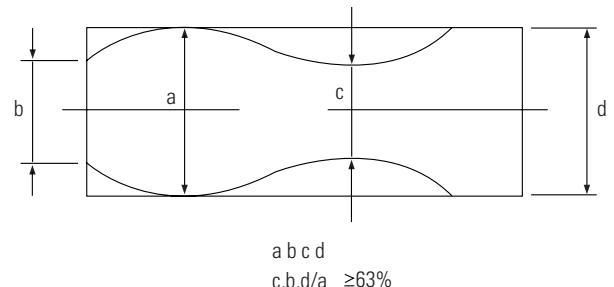


Fig. 3-5-4 Envelope Waveform Adjustment

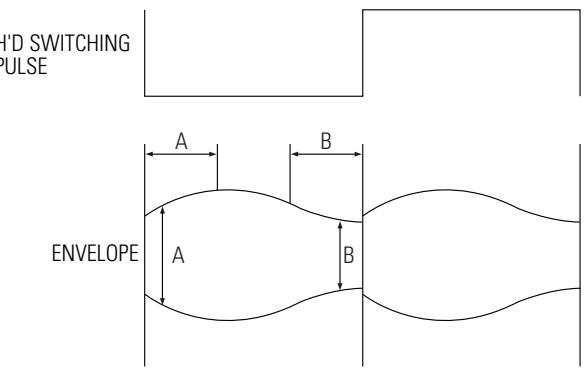


Fig. 3-5-5 Adjustment Points

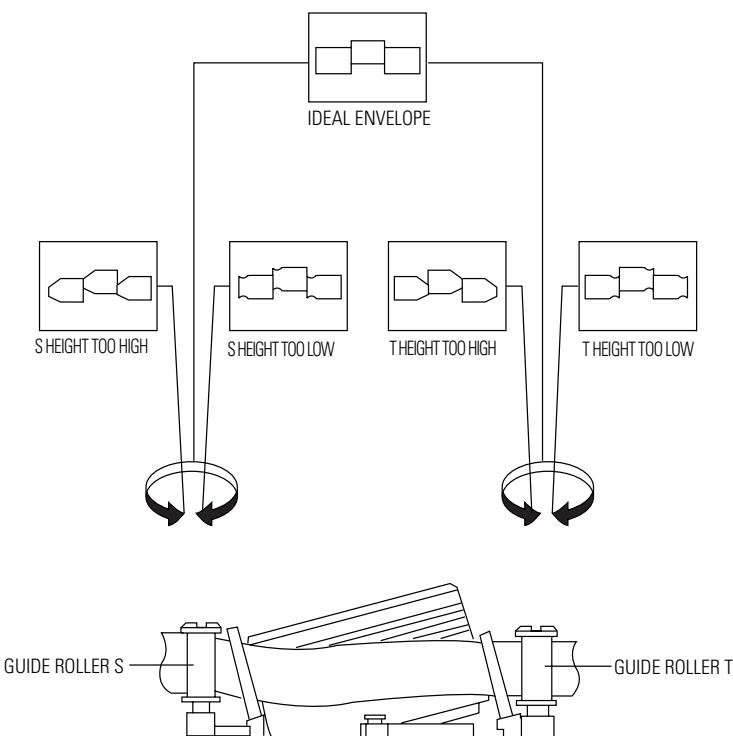


Fig. 3-5-6 Guide Roller S, T Height Adjustment

### 3-5-3 Check Transitional Operation from RPS to Play

Check transition from RPS mode to play mode :  
Using a pre-recorded SP tape, make sure the entry side of envelope comes to an appropriate steady state within 3 seconds (as shown in Fig. 3-5-7). If the envelope waveform does not reach specified peak-to peak amplitude within 3 seconds, adjust as follows :

- 1) Make sure there is no gap between the supply roller lower flange and the tape.  
If there is a gap, adjust the supply guide roller again.
- 2) Change operation mode from the RPS to the play mode (again) and make sure the entry side of envelope rises within 3 second.

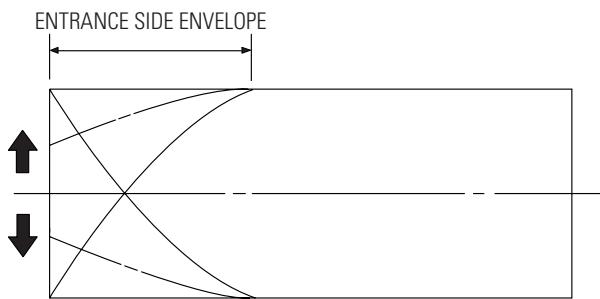


Fig. 3-5-7 Video Envelope Rising when Operation mode Changes from RPS to Play Mode

### 3-6 Reel Torque

- 1) The rotation of the capstan motor causes the Holder Clutch Ass'y to rotate through the Belt Pulley.
- 2) The spring wrap PLAY/REV of holder clutch ass'y drives the disk reel S, T through gear idle by rotation of gear center ass'y.
- 3) Brake is operated by slider cam at FF/REW mode.
- 4) Transportation of accurate driving force is done by gears. (Gear Center Ass'y)

**Note :** If the spec. does not meet the followings specifications, replace the holder clutch ass'y and then recheck.

### 3-5-4 Envelope Check

- 1) Make recordings on T-120 (E-120) and T-160 (E-180) tape.  
Make sure the playback output envelope meets the specification as shown in Fig. 3-5-8.
- 2) Play back a self recorded tape (recording made on the unit using with T-120 (E-120)).  
The video envelope should meet the specification as shown in Fig. 3-5-8.  
In SP mode, (A) should equal (B).  
If the head gap is wide, upper cylinder should be checked.

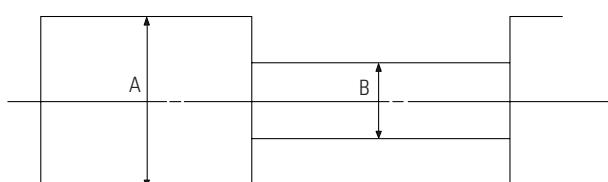


Fig. 3-5-8 Envelope Output and Output Level

### 3-5-5 Tape Wrinkle Check

- 1) Run the T-160 (E-180) tape in the playback, FPS, RPS and Pause modes and observe tape wrinkle at each guide.
- 2) If excessive tape wrinkle is observed, perform the following adjustments in Playback mode :

Tape wrinkle at the guide roller S, T section : Linearity adjustment.  
Tape wrinkle at tape guide flange : ACE head assembly coarse adjustment.

<Table 2-1>

| MODE | TORQUE g/cm | GAUGE                |
|------|-------------|----------------------|
| PB   | 42± 11      | Cassette Torquemeter |
| RPS  | 145 ± 30    | Cassette Torquemeter |

## 3-7 Deck

### 3-7-1 Tray Disc Removal

- (1) Insert a Screw Driver **①** into Emergency Hole **②** and push the Slider Housing **③** in the direction arrow "A".
- (2) When the Tray Disc **④** comes out a little, pull it in the direction arrow "B" by hand.
- (3) Pull the Tray Disc **④** to disassemble , while simultaneously pushing 2 Stoppers **⑤** (left, right) in the direction arrow "C", "D".

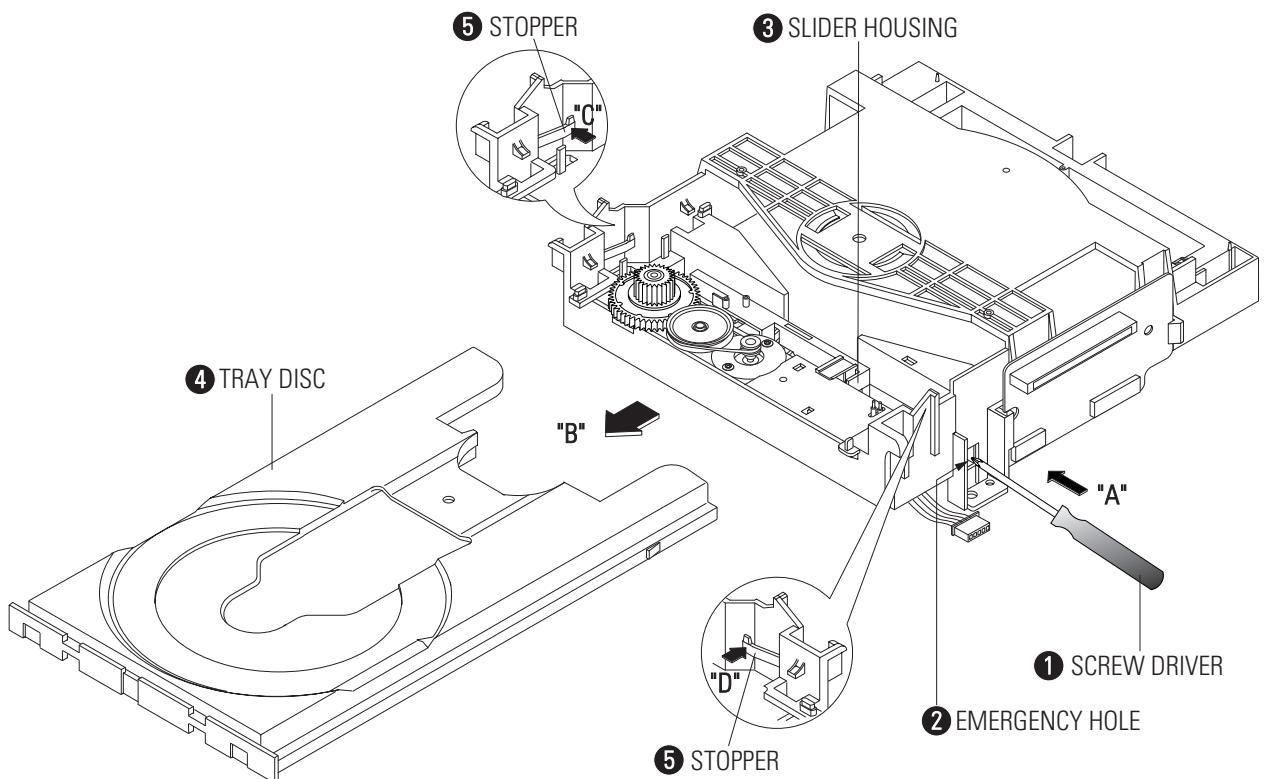


Fig. 3-7-1 Tray Disc Removal

### 3-7-2 Assy P/U Deck Removal

- (1) Disconnect DCN2 ①, DCN3 ②.
- (2) Lift down the Assy P/U Deck ③ while simultaneously pushing 2 Hooks ④, ⑤ in the direction of arrow "A", "B".

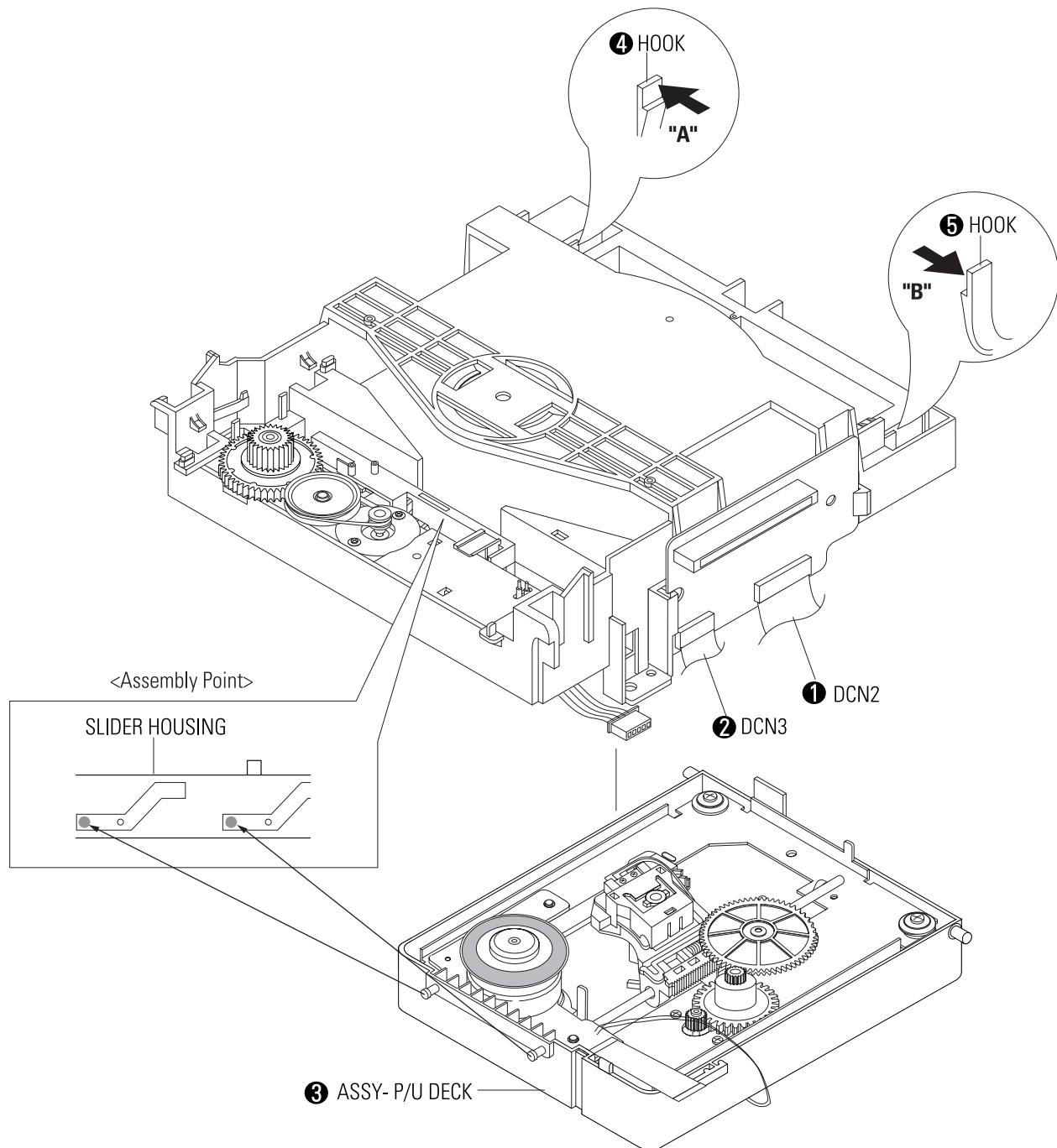


Fig. 3-7-2 Assy P/U Deck Removal

### 3-7-3 Housing Ass'y Removal

- (1) Remove Belt ①.
- (2) Push the Hook ② in the direction arrow "A" and lift up Pulley Gear ③.
- (3) Push the Slider Housing ⑤ in the direction arrow "B" and lift up the Gear Tray ④.
- (4) Lift up the Slider Housing ⑤.
- (5) Remove the soldering ⑥ of 2 points (Red, Black).
- (6) Remove 2 Screws ⑦ and lift downm the Motor Load Assy ⑧ .
- (7) Push the 3 Hooks ⑨ bottom side in the direction arrow "C" and lift up the Housing PCB ⑩ .
- (8) Push the Hooks ⑪ and remove Deck PCB ⑫ .

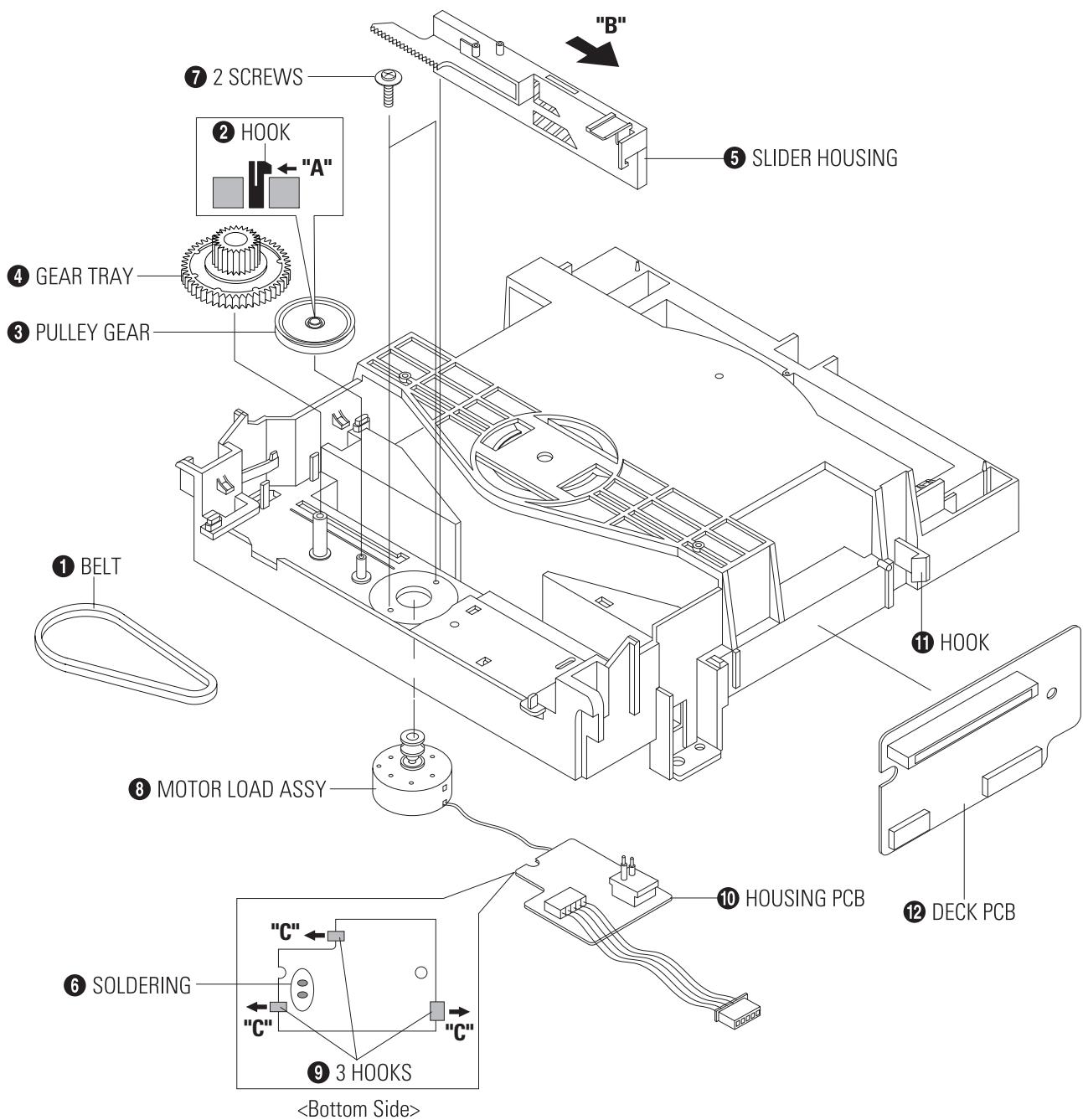


Fig. 3-7-3 Housing Ass'y Removal

### 3-7-4 Sub Chassis Removal

- (1) Remove the Soldering of Motor Feed (+, - wire) ① .
- (2) Remove the 4 Screws ② .
- (3) Lift up the Ass'y Brkt Deck ③ .

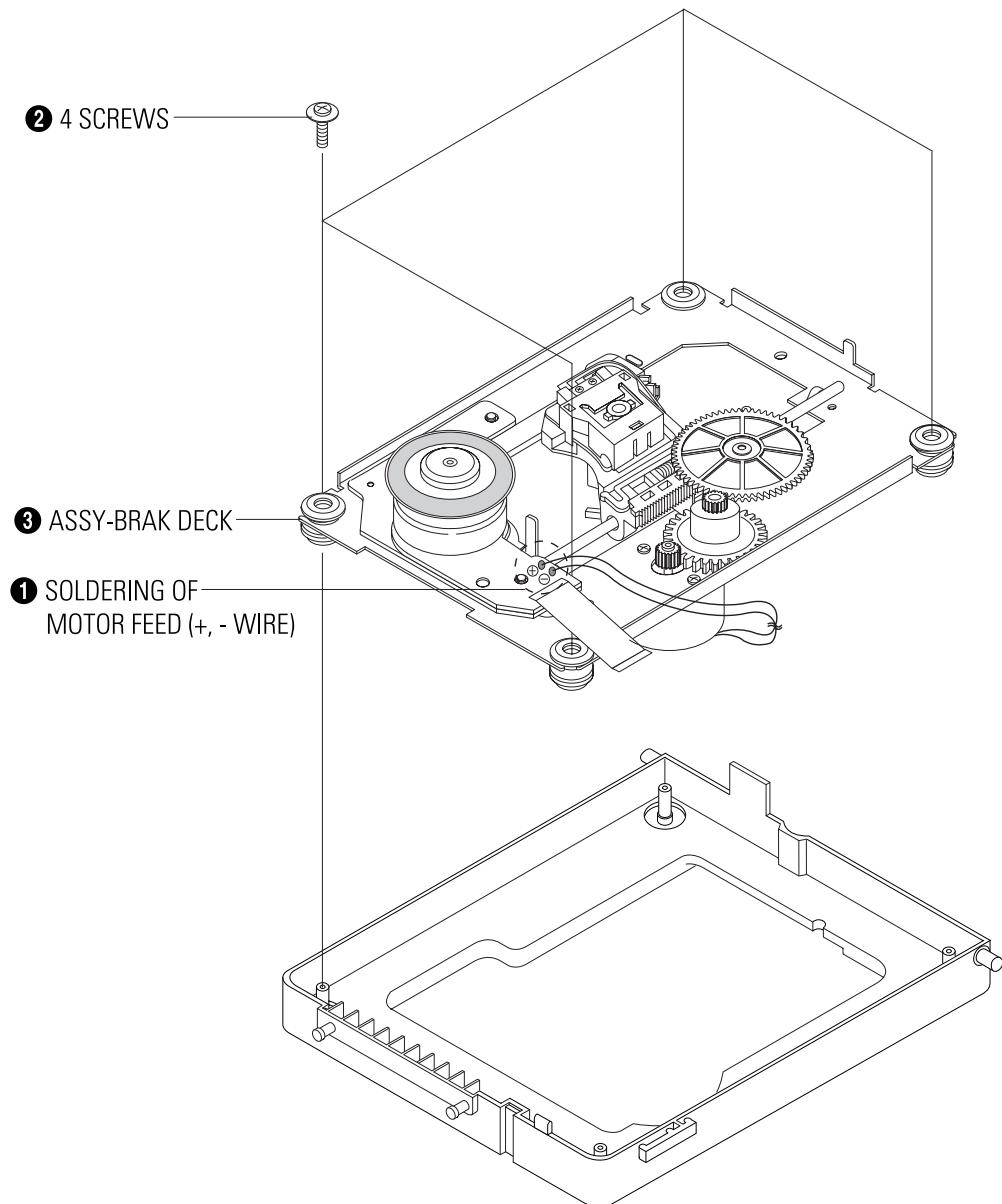


Fig. 3-7-4 Sub Chassis Removal

### 3-7-5 Ass'y Brkt Deck Removal

- (1) Remove Washer ① .
- (2) Remove Gear Feed B ② , Gear Feed A ③ .
- (3) Remove 2 Screws ④ .
- (4) Remove Shaft Pick-Up ⑤ and Pick-Up Assy ⑥ .
- (5) Remove 1 Screw ⑦ .
- (6) Remove 2 Screws ⑧ .
- (7) Remove 3 Spring Spindle ⑨ and Motor Spindle Ass'y ⑩ .

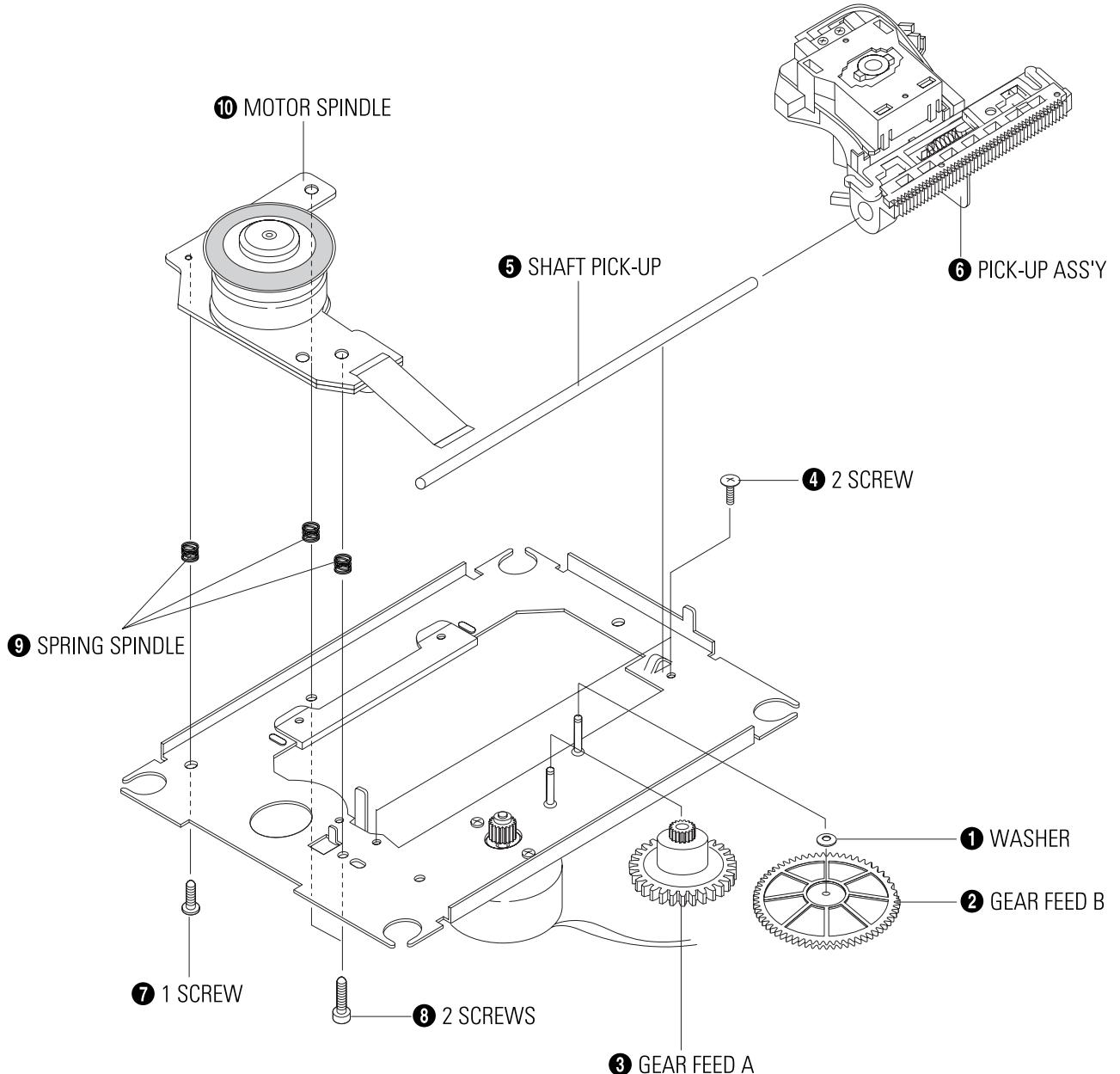


Fig. 3-7-5 Ass'y Brkt Deck Removal

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## 4. Alignment and Adjustments (Electrical)

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### 4-1 Preadjustment

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#### 4-1-1 Factory Mode

1. Do not attempt these adjustments in the Video Mode.
2. The Factory Mode adjustments are necessary when either the EEPROM (IC901) or the CRT is replaced.
3. Do not tamper with the "Adjustment" screen of the Factory Mode menu. This screen is intended only for factory use.

#### 4-1-2 When EEPROM (IC901) Is Replaced

1. When IC901 is replaced all adjustment data revert to initial values. It is necessary to re-program this data.
2. After IC901 is replaced, warm up the TV for 10 seconds.

#### 4-1-3 When CRT Is Replaced

Make the following adjustments after setting up purity and convergence:

White Balance  
Sub-Brightness  
Vertical Center  
Vertical Size  
Horizontal Size

### 4-2 Factory ("Service") Mode

---

#### 4-2-1 Procedure for the "Adjustment" Mode

1. This mode uses the standard remote control. The Service Mode is activated by: (1) pressing the "FACTORY" service key on the local-keyboard, or (2) by entering the following remote-control sequence (within 2 seconds):  
  
STAND-BY → MUTE → 1 → 8 → 2 →  
POWER ON
2. The "SERVICE (FACTORY)" message will be displayed. The Service Mode has three components: Adjustment, Option Bytes and Reset.
3. Access the Adjustment Mode by pressing the "SELECT" keys (◀ ▶). The adjustment parameters are listed in the accompanying table, and selected by pressing the "SELECT" keys (s,t).

4. Selection sequences for the NTSC systems:

down or up key:

CAP>SBT>SCT>SCR>STT>BLR>BLG>RG>  
GG>BG>PWL>SC>VSL>VA>NVS>NHS>  
EW1>EWP>EWUC>EWLC>VSC>HP>HB>  
TC>EW2>CDL>BKS>NDL>WS>VM

5. The "SELECT" keys (s,t) increase or decrease the adjustment values, (stored in the non-volatile memory) when Adjustment Mode is cancelled.

## 4-2-2 Adjust

| OSD | Initial | Adjust | Range | Function           | OSD  | Initial | Adjust | Range | Function                   |
|-----|---------|--------|-------|--------------------|------|---------|--------|-------|----------------------------|
| CAP | 10      | Fix    |       | CAPTION Position   | NHS  | 35      |        | 0-63  | Horizon Shift              |
| SBT | 4       |        | 0-23  | Sub Bright         | EW1  | 25      |        | 0-63  | EW                         |
| SCT | 15      |        | 0-23  | Sub Contrast       | EWP  | 3       |        | 0-63  | EW (Panorama)              |
| SCR | 13      | Fix    | 0-13  | Sub Color          | EWUC | 32      | Fix    | 0-63  | Upper Corner               |
| STT | 2       | Fix    | 0-13  | Sub Tint           | EWLC | 32      | Fix    | 0-63  | Lower Corner               |
| BLR | 32      |        | 0-63  | Low Light R        | VSC  | 32      | Fix    | 0-63  | Vertical scroll            |
| BLG | 32      |        | 0-63  | Low Light G        | HP   | 34      |        | 0-63  | H-Parallelogram            |
| RG  | 32      |        | 0-63  | High Light R       | HB   | 32      |        | 0-63  | Horizontal Bow             |
| GG  | 32      |        | 0-63  | High Light G       | TC   | 26      |        | 0-63  | EW Trapezium               |
| BG  | 32      |        | 0-63  | High Light B       | EW2  | 32      | Fix    | 0-63  | 28"EW                      |
| PWL | 12      | Fix    | 0-15  | Peak white level   | CDL  | 10      | Fix    | 0-15  | Cathode Drive Level        |
| SC  | 12      | Fix    | 0-63  | S-Correction       | BKS  | 1       | Fix    | 0-1   | Black Stretcher            |
| VSL | 24      |        | 0-63  | Vertical Slope     | NDL  | 7       | Fix    | 0-15  | NTSC Delay                 |
| VA  | 15      |        | 0-63  | Vertical Amplitude | WS   | 3       | Fix    | 0-3   | White Stretch              |
| NVS | 32      |        | 0-63  | Vertical shift     | VM   | 0       | Fix    | 0-3   | Amplitude of Scan Velocity |

## 4-2-3 AGING Mode(Reference Only)

This pattern is used for pre-heating the CRT during manufacturing-it is accessed in the factory by twice pressing the "FACTORY" key.

Even if the TV power is cut off, the Aging Mode is not cancelled.

The "AGING" marking is displayed on the screen.

The AGING mode is cancelled by epresing the "FACTORY" key.

#### 4-2-4 Option

| NO | OSD         | Adjust        | Range                         |
|----|-------------|---------------|-------------------------------|
| 1  | VIDEO MUTE  | ON            | ON/OFF                        |
| 2  | ZOOM        | NOR/ZOOM/16:9 | NORMAL,NOR/ZOOM,NOR/ZOOM/16:9 |
| 3  | AUTO POWER  | ON            | ON/OFF                        |
| 4  | AUDIO MUTE  | ON            | ON/OFF                        |
| 5  | LANGUAGE    | English       | English/Espanol/Franch        |
| 6  | V REFRESH   | ON            | ON/OFF                        |
| 7  | BLUE SCREEN | ON            | ON/OFF                        |
| 8  | V-CHIP      | ON            | ON/OFF                        |
| 9  | ANTENNA     | IRC           | IRC/AFN                       |
| 10 | S-VIDEO     | OFF           | ON/OFF                        |
| 11 | VCR HEAD    | HIFI          | HIFI/4HD/2HD                  |

#### 4-2-5 Reset

The Reset Mode is used during factorying inspection

Function Reset : After Factorying Reset, the following items revert to their initial values.

- |               |        |
|---------------|--------|
| 1. Volume     | 10     |
| 2. Channel    | ANT 3  |
| 3. P- STD     | MEMORY |
| 4. Auto Power | ON     |
| 5. NR         | OFF    |

Cautim : When the EEPROM is replaced ; all items revert to their initial values.

#### 4-2-6 VCR Test Mode (Reference Only)

The VCR Test Mode is used during factorying inspection or when exchange VCR deck.

\* Entering : STBY Mode -> factory key -> Power key (light up all LED)

Function : “9” -> Head Switch Auto Adjustment.

“5” -> Env Center point Auto Adjustment.

“TRK + “ -> Env max point Adjustment.

“TRK - “ -> Env min point Adjustment.

\* Cancellation : pull out power cord.

## 4-3 Other Adjustments

---

### 4-3-1 General

1. Usually, a color TV needs only slight touch-up adjustment upon installation. Check the basic characteristics such as height, horizontal and vertical sync and focus.
2. The picture should have good black and white details. There should be no objectionable color shading; if color shading is present, perform the purity and convergence adjustments described below.
3. Use the specified test equipment or its equivalent.
4. Correct impedance matching is essential.
5. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test results.
6. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.
7. Do not attempt to connect or disconnect any wires while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.
8. To protect against shock hazard, use an isolation transformer.

### 4-3-2 Automatic Degaussing

A degaussing coil is mounted around the picture tube, so that external degaussing after moving the TV should be unnecessary. But the receiver must be properly degaussed upon installation.

The degaussing coil operates for about 1 second after the power is switched ON. If the set has been moved or turned in a different direction, disconnect its AC power for at least 10 minutes.

If the chassis or parts of the cabinet become magnetized, poor color purity will result. If this happens, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube and the sides and front of the receiver. Slowly withdraw the coil to a distance of about 6 feet before removing power.

### 4-3-3 High Voltage Check

**CAUTION:** There is no high voltage adjustment on this chassis. The B+ power supply must be set to +130 volts (Full color bar input and normal picture level).

1. Connect a digital voltmeter to the second anode of the picture tube.
2. Turn on the TV. Set the Brightness and Contrast controls to minimum (zero beam current).
3. The high voltage should not exceed 30KV.
4. Adjust the Brightness and contrast controls to both extremes. Ensure that the high voltage does not exceed 30KV under any conditions.

#### 4-3-4 FOCUS Adjustment

1. Input a CROSS hatch signal.
2. Adjust the tuning Focus VR for the clearest picture.
3. Adjust the FOCUS control for well defined scanning lines in the center area of the screen.

#### 4-3-5 Screen Adjustment

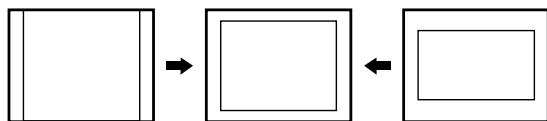
1. Turn to the White Signal.
2. Adjust the VR screen for a normal picture is (no blooming or flyback line).  
Input the Factory -> G2-Adjust choice -> Screen VR tuning OK Mode

#### 4-3-6 Purity Adjustment

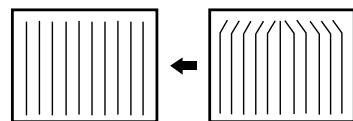
1. Warm up the receiver for at least 20 minutes.
2. Plug in the CRT deflection yoke and tighten the clamp screw.
3. Plug the convergence yoke into the CRT and set in as shown in Fig. 5-1.
4. Input a black and white signal.
5. Fully demagnetize the receive by applying an external degaussing coil.
6. Turn the CONTRAST and BRIGHTNESS controls to maximum.
7. Loosen the clamp screw holding the yoke. Slide the yoke backward or forward to provide vertical green belt. (Fig. 5-2).
8. Tighten the convergence yoke.
9. Slowly move the deflection yoke forward, and adjust for the best overall green screen.
10. Temporarily tighten the deflection yoke.
11. Produce blue and red rasters by adjusting the low-light controls. Check for good purity in each field.
12. Tighten the deflection yoke.

## 4-3-7 I<sup>2</sup>C BUS GEOMETRIC Adjust

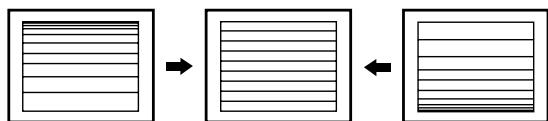
1. V SIZE(VA)



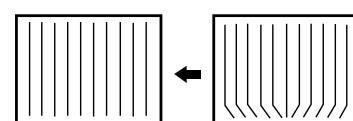
2. UP CPIN (EWUC) : 29" Only



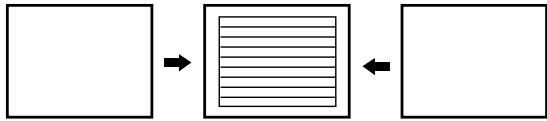
3. V LINEARITY (VSL)



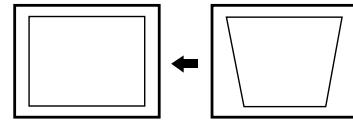
4. LO CPIN (EWLC) : 29" Only



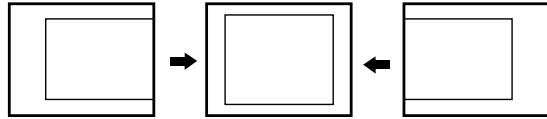
5. V S CORRECTION (SC)



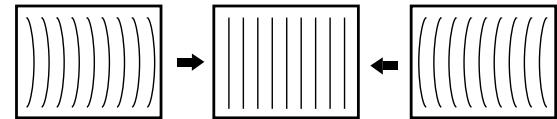
6. TILT (TC)



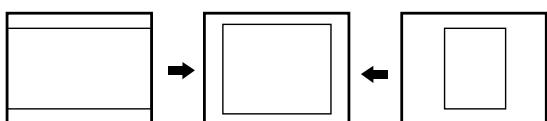
7. H POSITION (NHS)



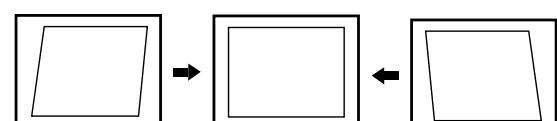
8. AFC BOW (HB)



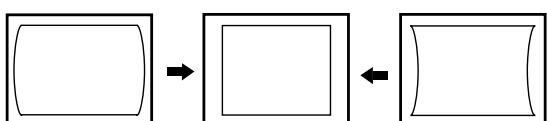
9. H SIZE(EWI)



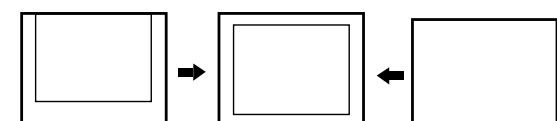
10. AFC ANGLE (HP)



11. PIN COMP (EWP)



12. V POSITION (NVS)



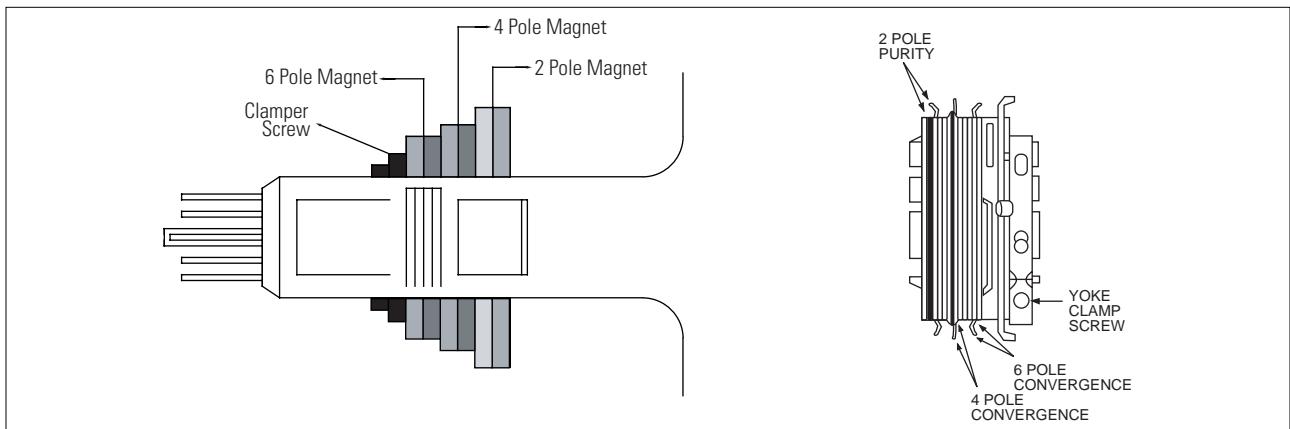


Fig. 5 -1 Convergence Magnet Assembly

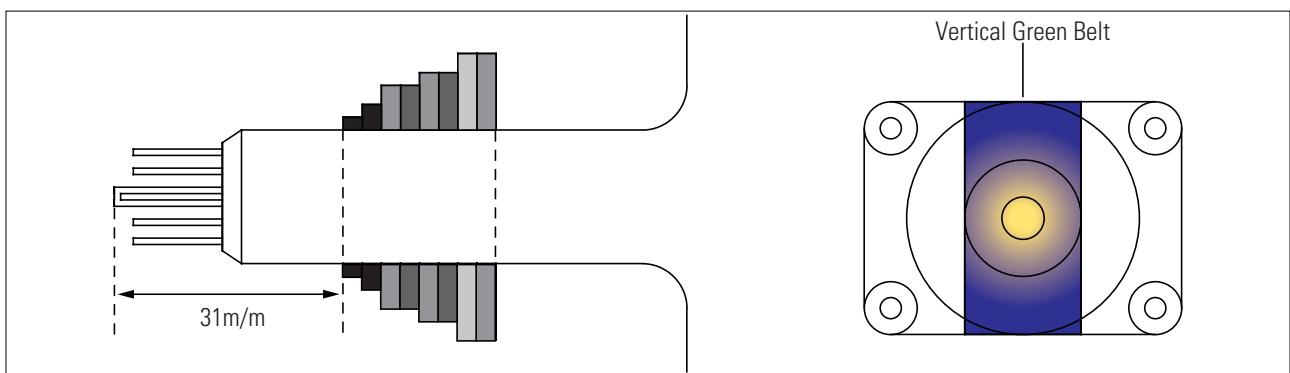


Fig. 5-2 Center Convergence Adjustment

#### 4-3-8 White Balance Adjustment

##### 4-4-7 (A) HIGH-LIGHT ADJUSTMENT

1. Input either a Lion Head or a "pure white" pattern.
2. Warm up the TV for 30 minutes.
3. Check the data in the Service Mode
4. Adjust RG, BG in the Factory Mode.

##### 4-4-7 (B) LOW-LIGHT ADJUSTMENT

1. Automatically accomplished during the high-light adjustment.

### 4-3-8 Center Convergence Adjustment

1. Warm up the receiver for at least 20 minutes.
2. Adjust the two tabs of the 4 pole magnets to change the angle between them. Superimpose the red and blue vertical lines in the center area of the screen.
3. Adjust the Brightness and Contrast controls for a well defined picture.
4. Adjust the two-tab pairs of the 4 pole magnets, and change the angle between them. Superimpose the red and the blue vertical lines in the center area of the screen.

5. Turn the both tabs at the same time, keeping the angle constant, and superimpose the red and blue horizontal line in the center of the screen.
6. Adjust the two-tab pairs of the 6-pole magnets to superimpose the red and blue line onto the green. (Changing the angle affects the vertical lines, and rotating both magnets affects the horizontal lines.)
7. Repeat adjustments 2~6, if necessary.
8. Since the 4-pole magnets and 6-pole magnets interact, the dot movement is complex (Fig. 5-3).

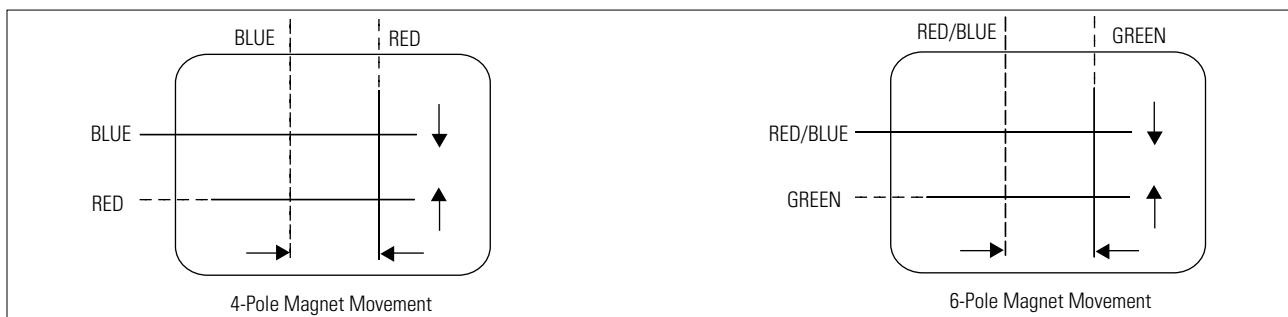
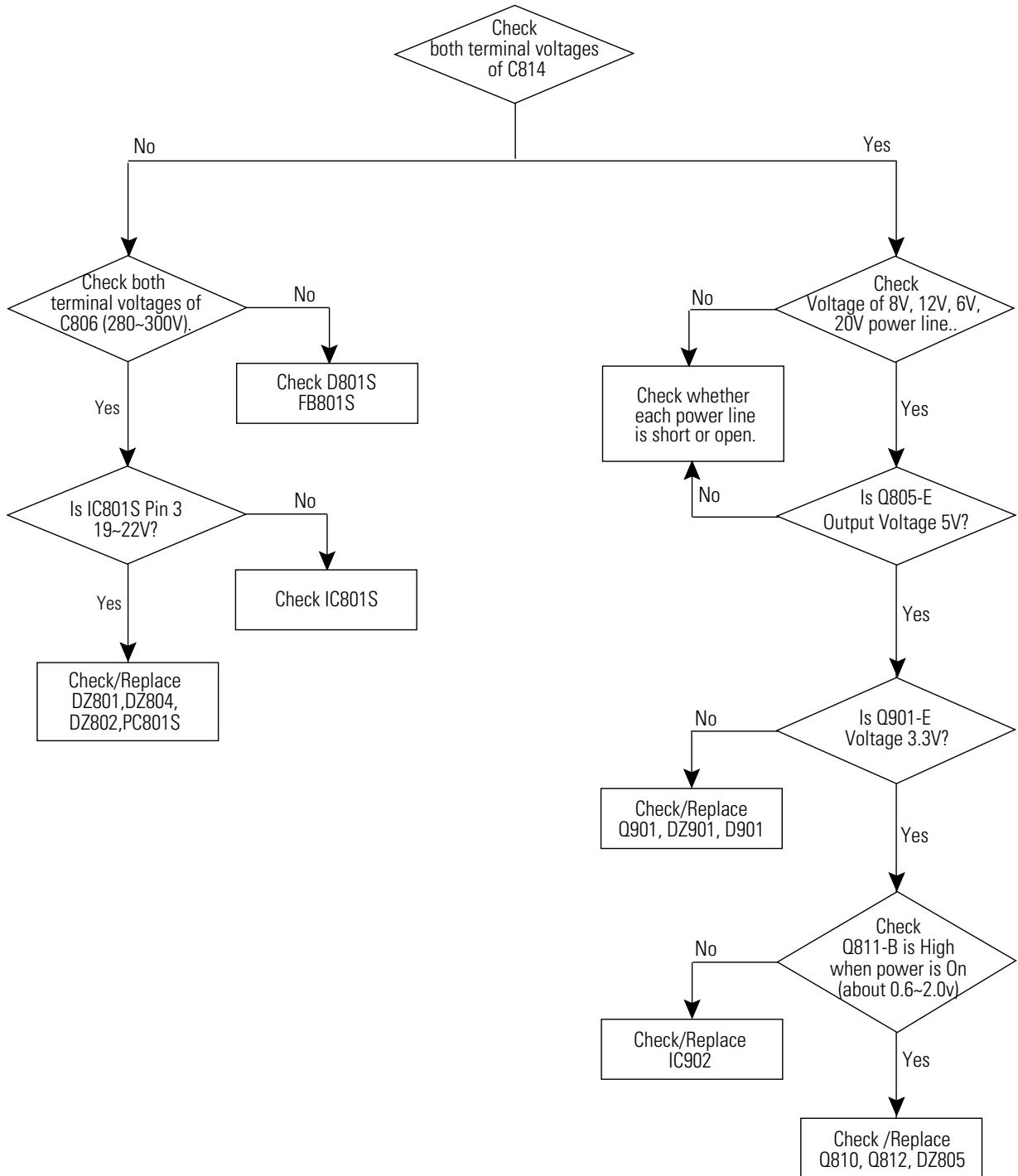


Fig 5-3 Center Convergence Adjustment

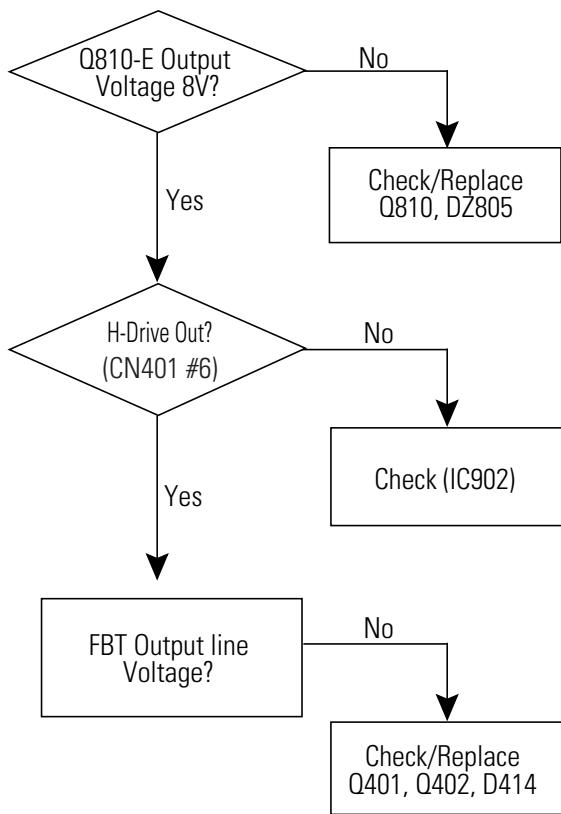
## 5. Troubleshooting

### 5-1 No Power (No Picture on)



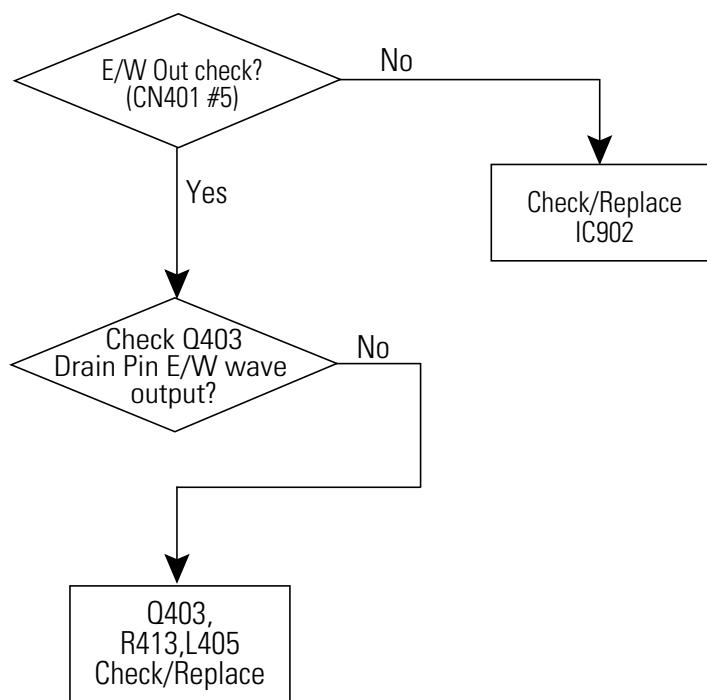
## 5-2 No Power (No Picture)

---



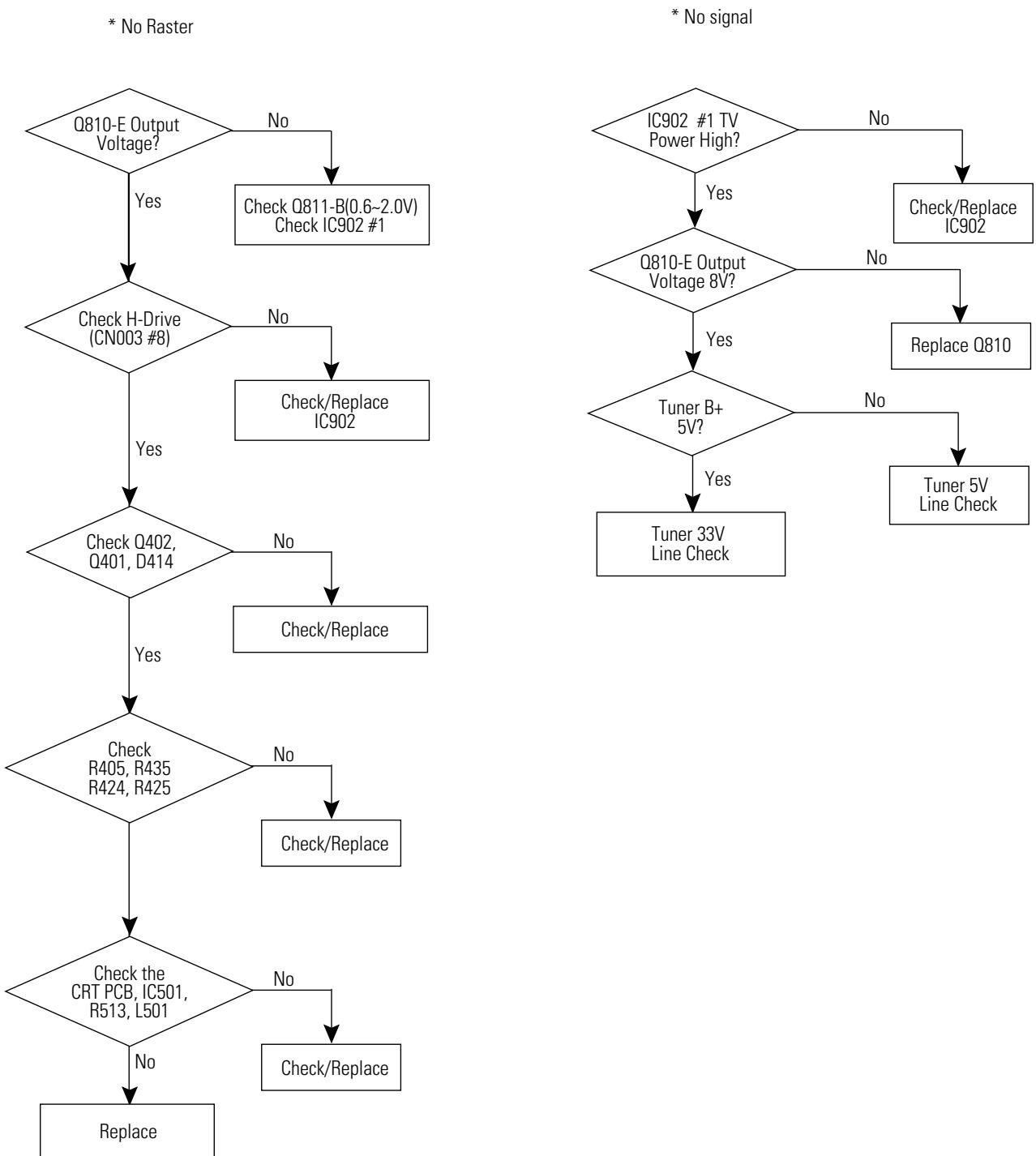
## 5-3 E/W Correction Not

---

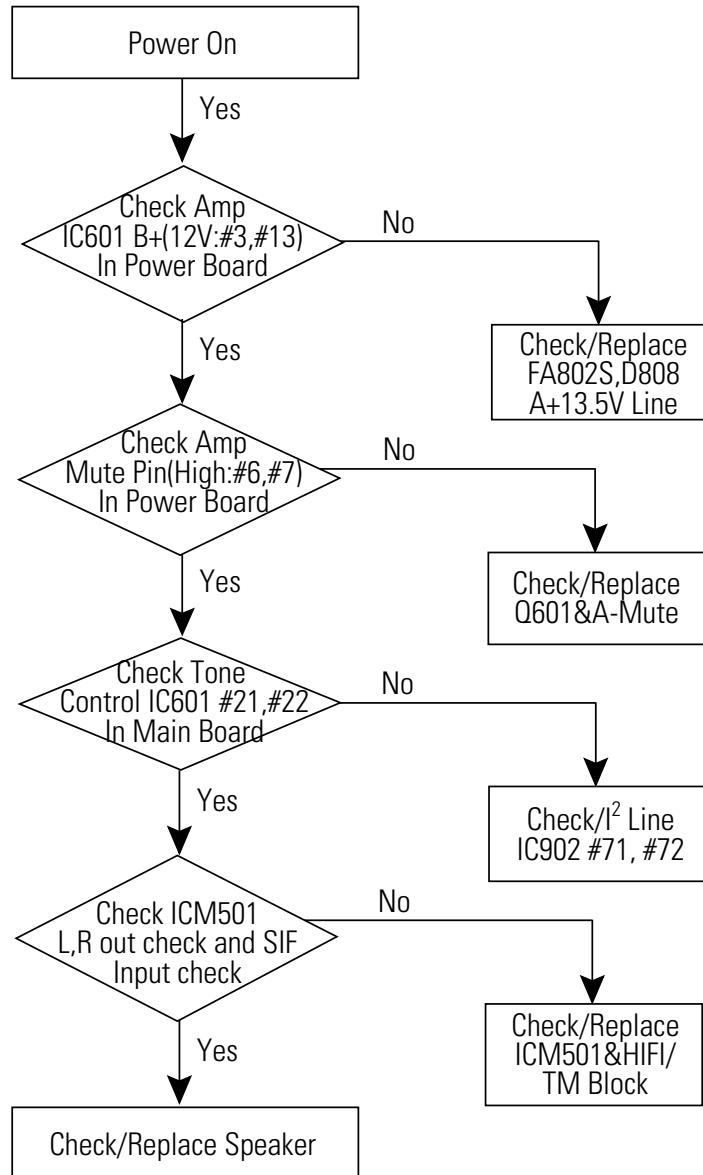


## 5-4 No Raster / No RF Signal

---

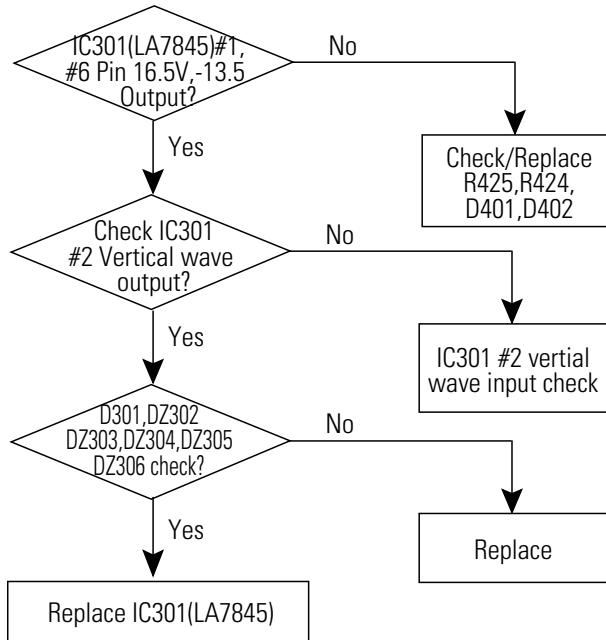


## 5-5 No Sound



## 5-6 Horizontal Line

---



## 5-7 No Picture (Sound OK)

---

1. Check the Brightness, Contrast and Color adjustments
2. Check: AV Picture
3. See Signal Block Diagram

## 5-8 No Sound (Picture OK)

---

1. Check the Volume adjustment level.
2. Check AV Video
3. See Signal Block Diagram

## **5-9 RF Weak Signal (Playback, AV Mode OK)**

---

1. Check Tuner (TU01S) B+. Check: 8V  
33V (DZ201). Check 5V

## **5-10 No Vertical SCAN**

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1. Check R425, D401
2. Check IC301, #2
3. Check Chroma module Vertical-out Line
4. Check DY Connector

## **5-11 Horizontal Size**

---

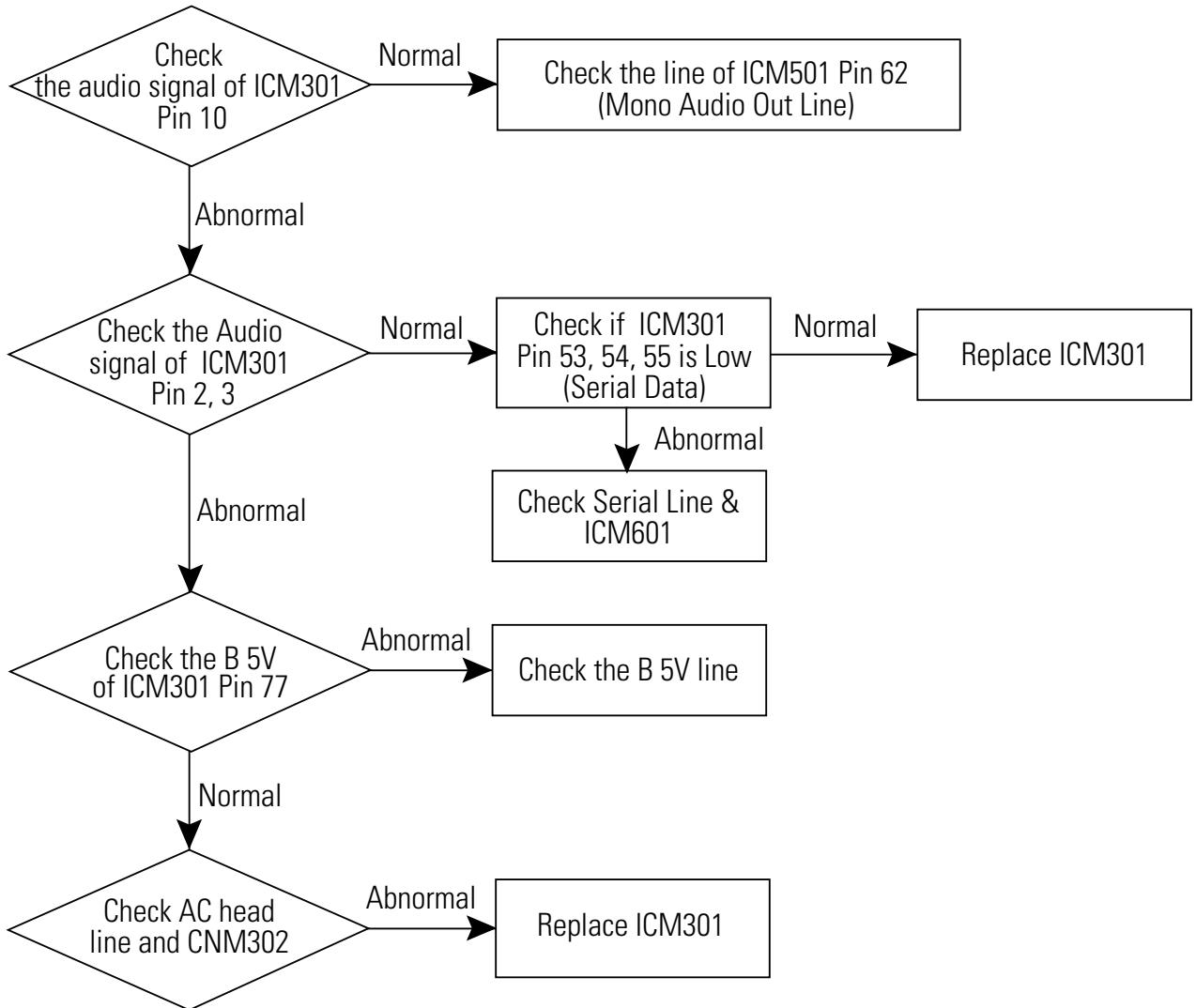
1. Check C411, R421, Q403, R413, R405

## **5-12 On-Screen Display Missing**

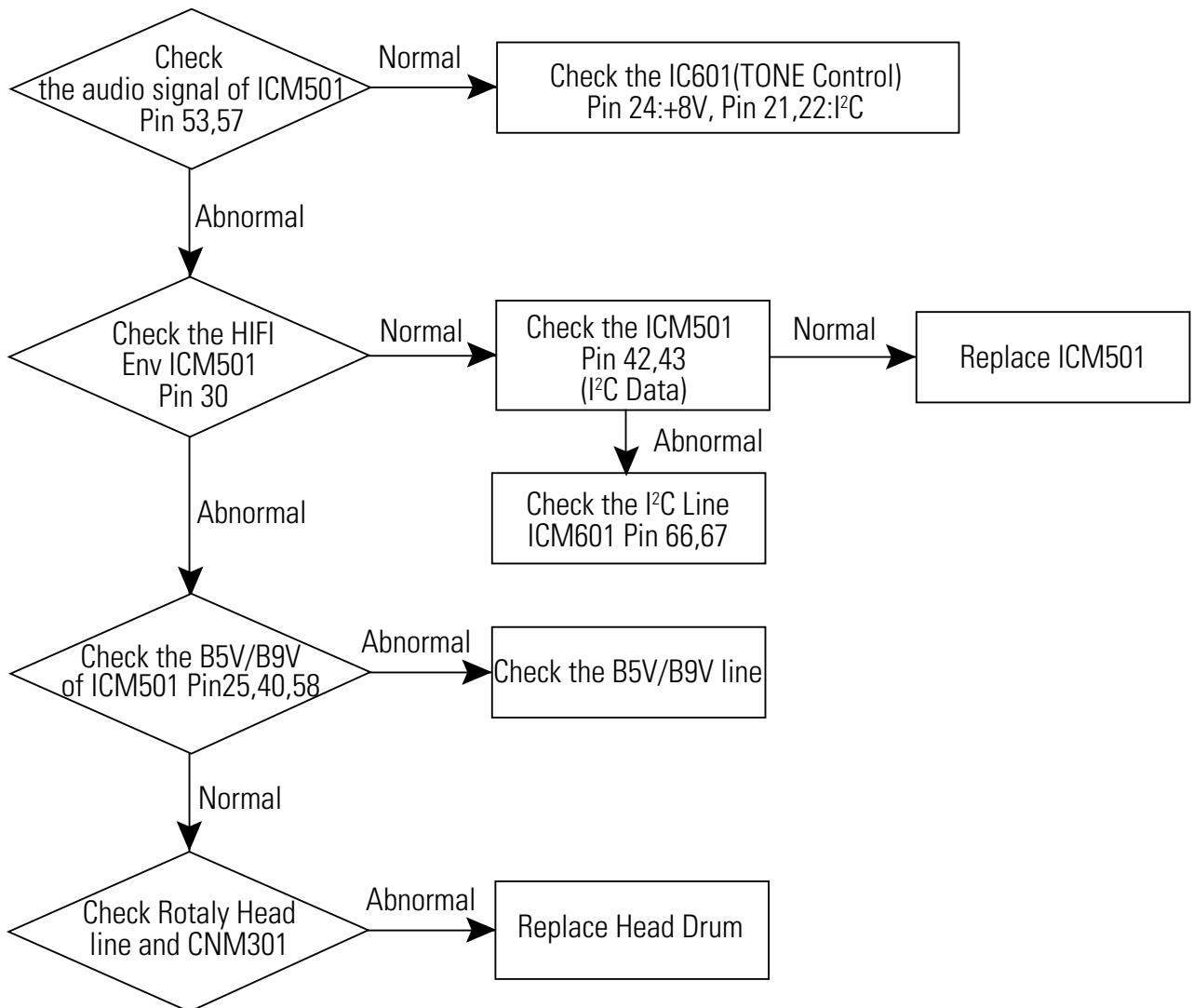
---

1. Check IC902 #56, #57, #58

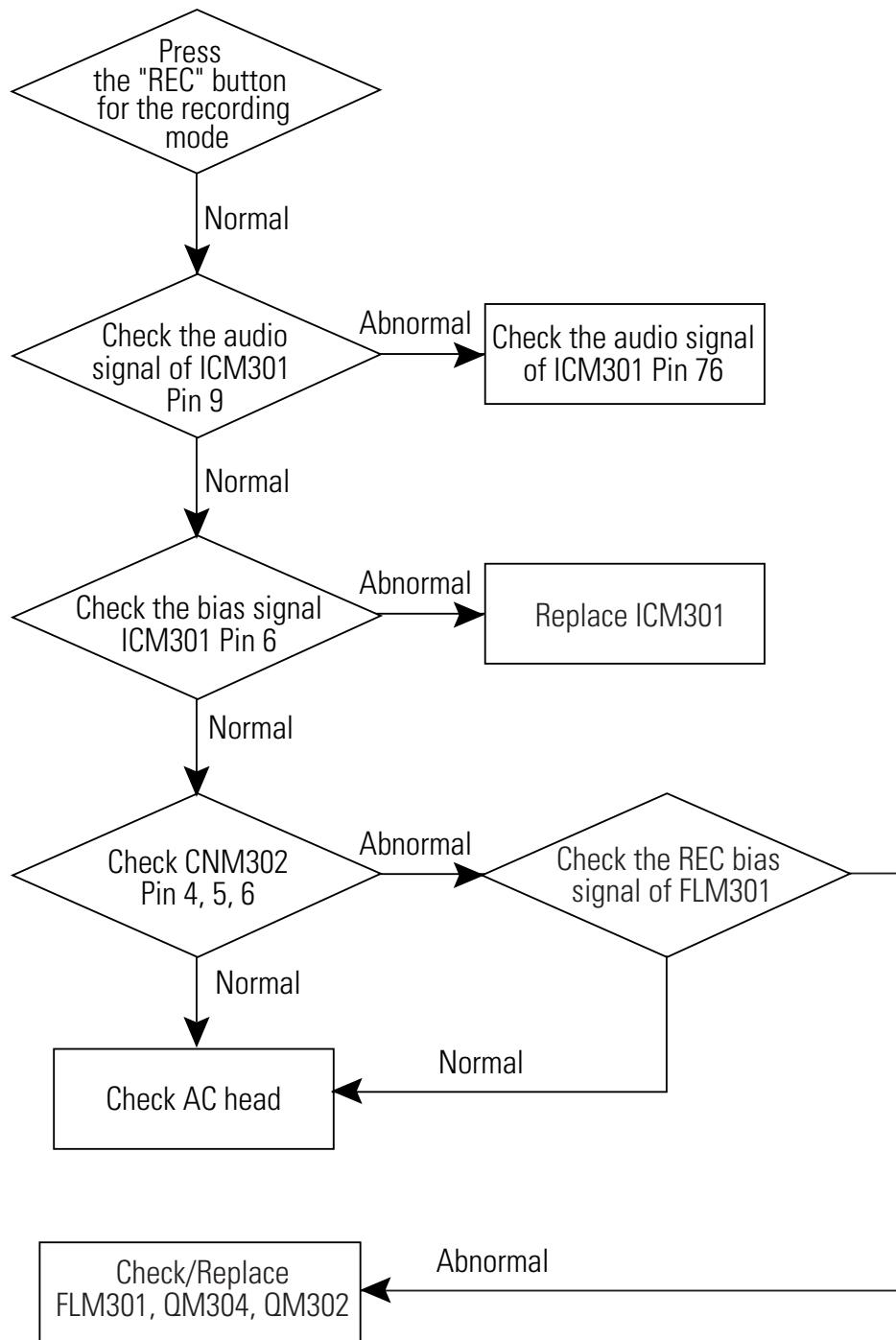
## 5-13 No Audio During Playback (Mono Audio)



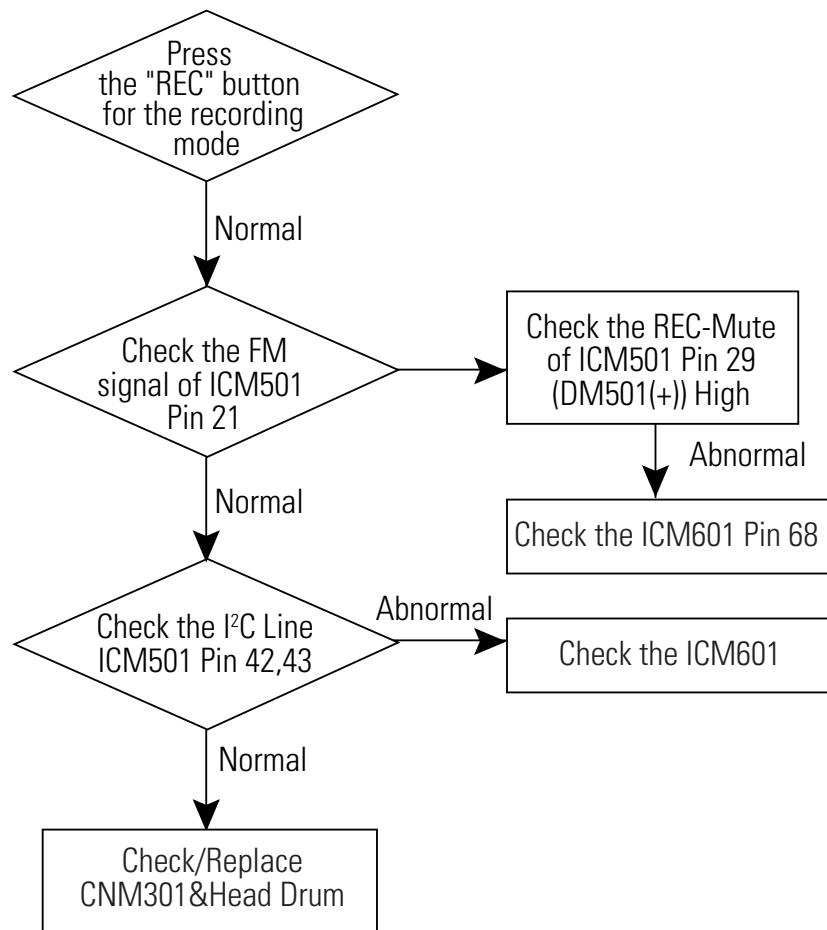
## 5-14 No Audio During Playback (HIFI)



## 5-15 No Audio During Record (Mono Audio)

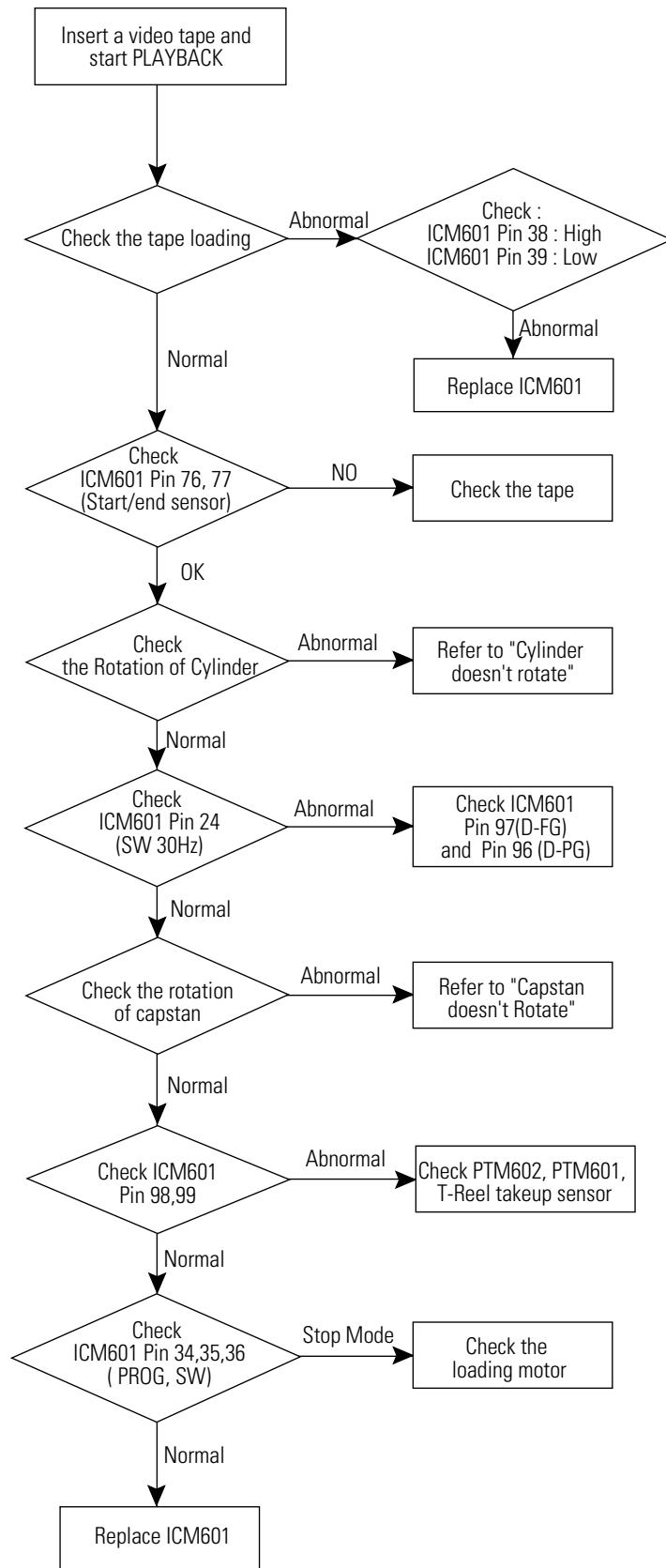


## 5-16 No Audio During Record (HIFI Audio)

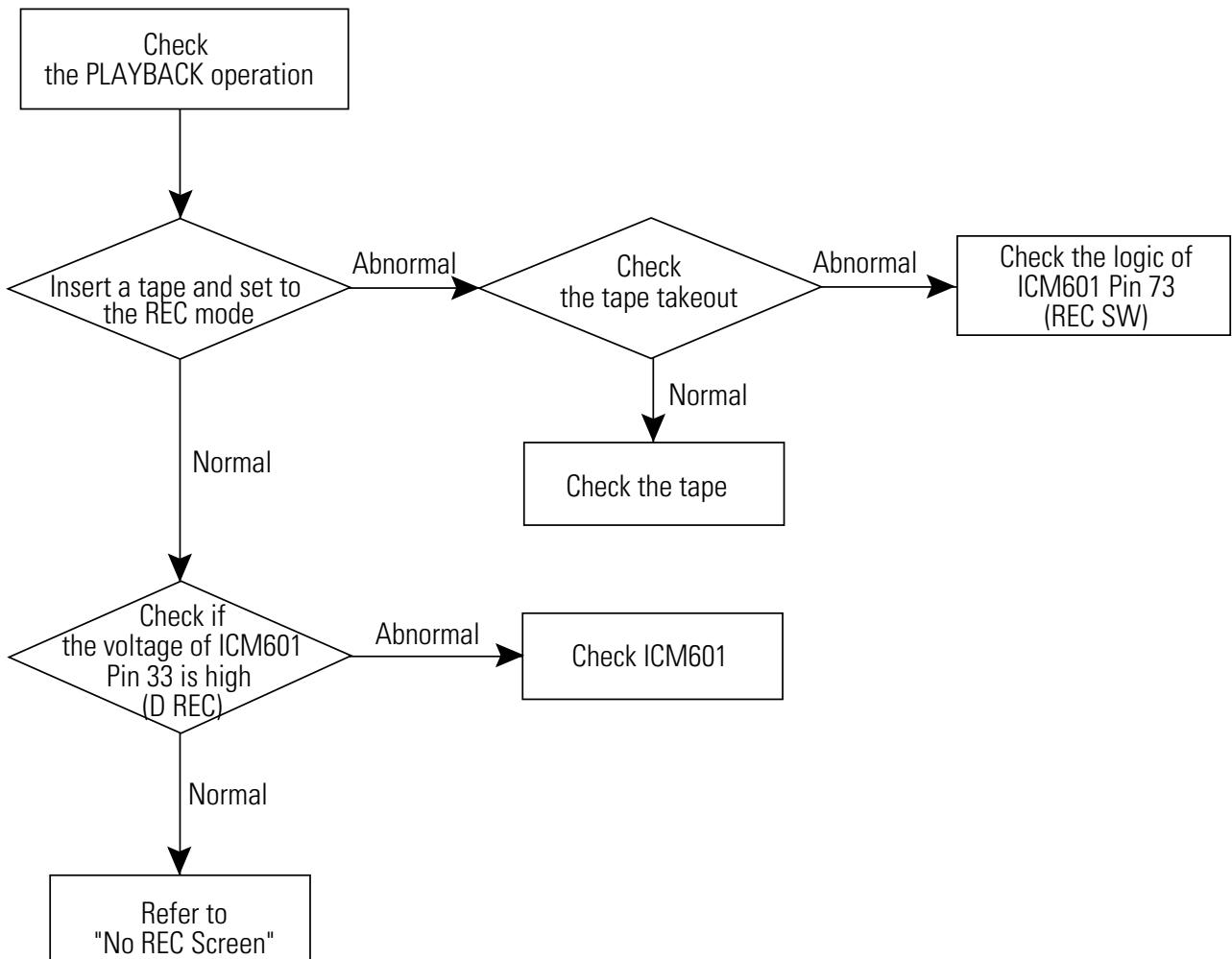


## 5-17 No Playback

---

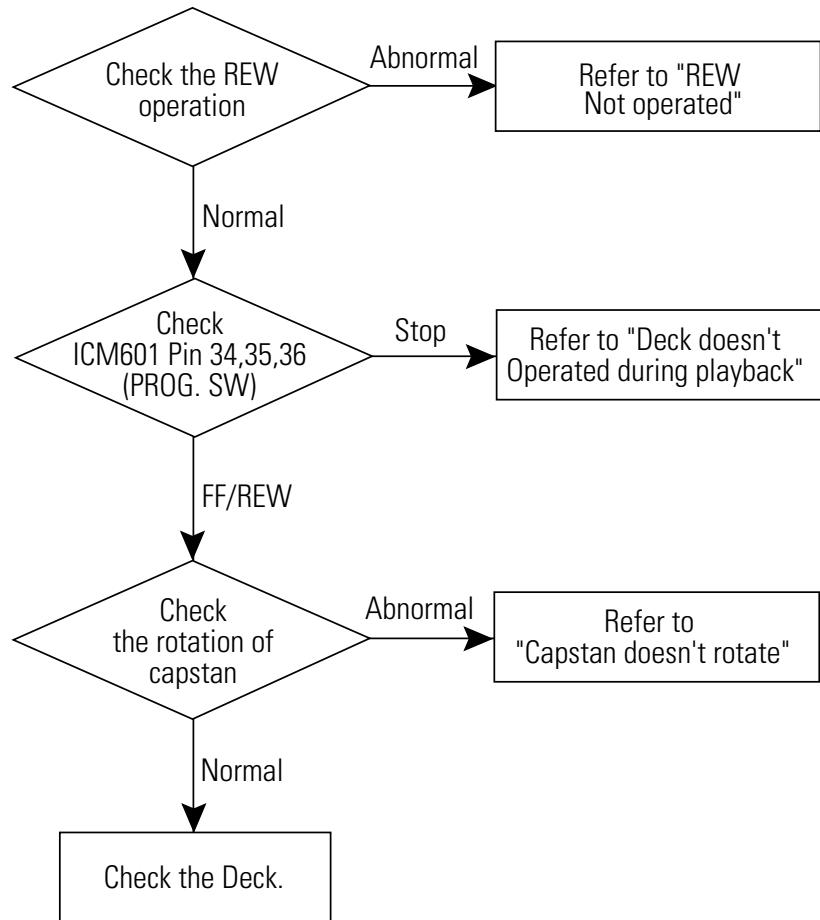


## 5-18 REC Doesn't Operate



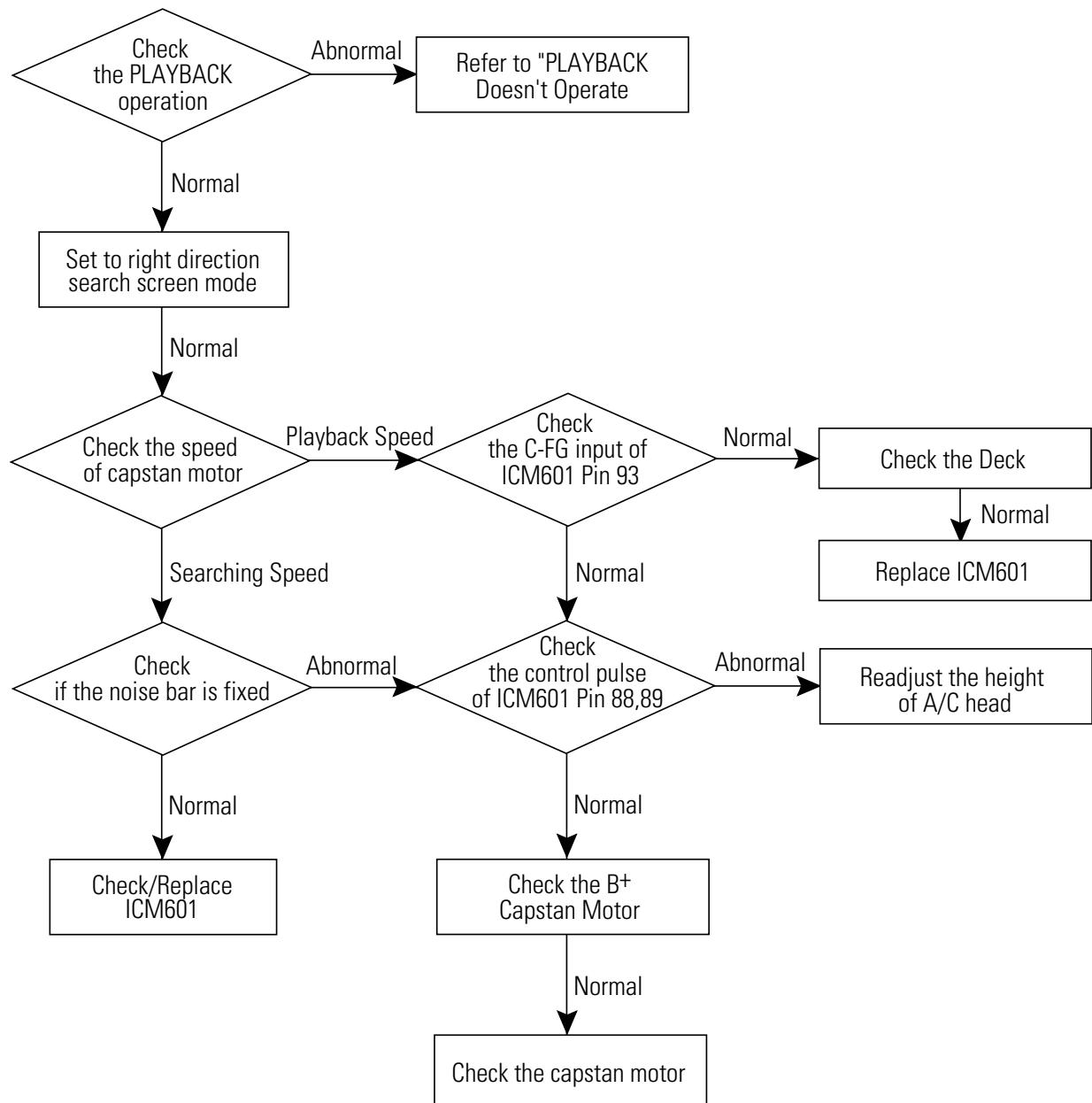
## 5-19 FF/ "REW" Doesn't Operate

---



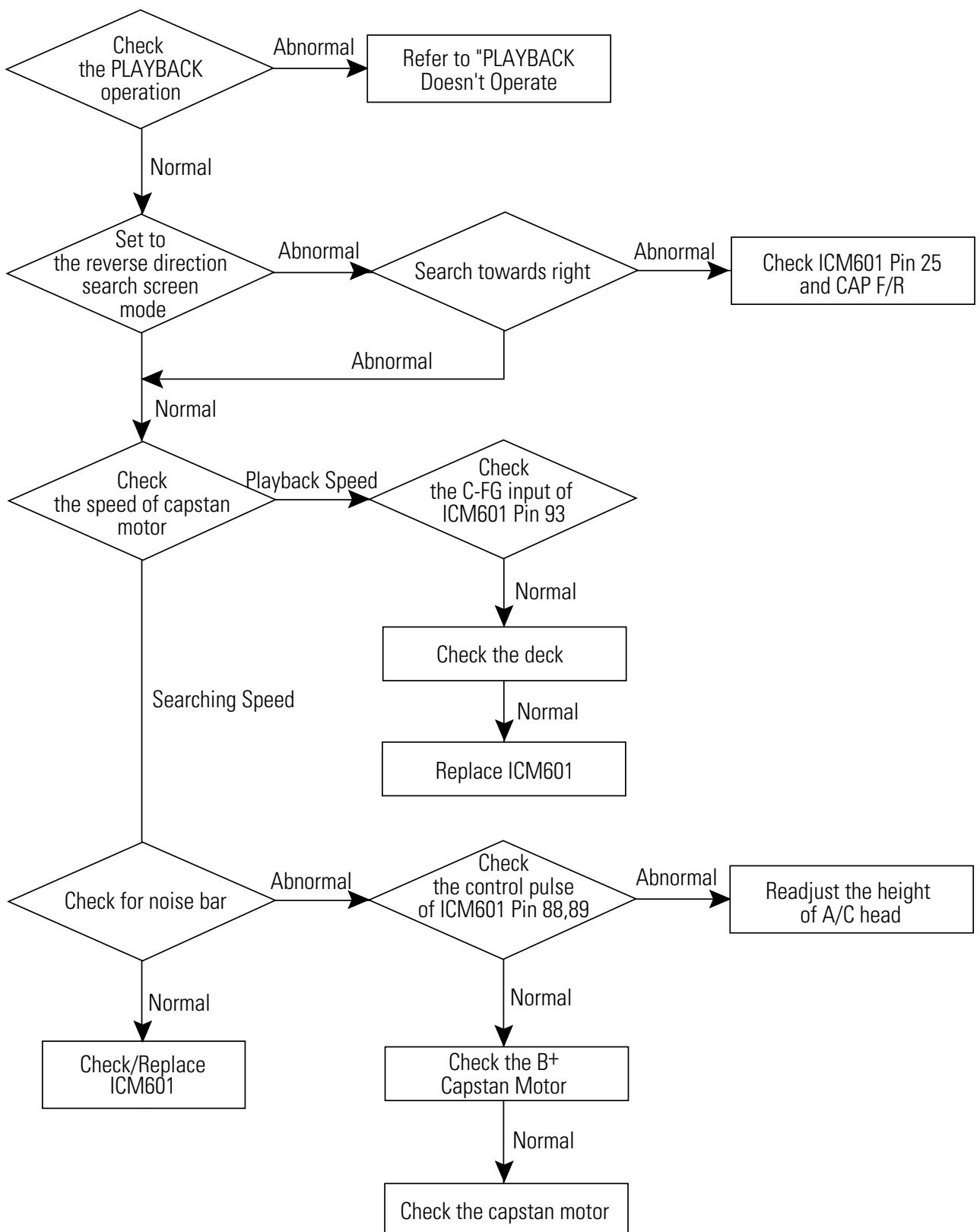
## 5-20 "Forward Direction Search

---



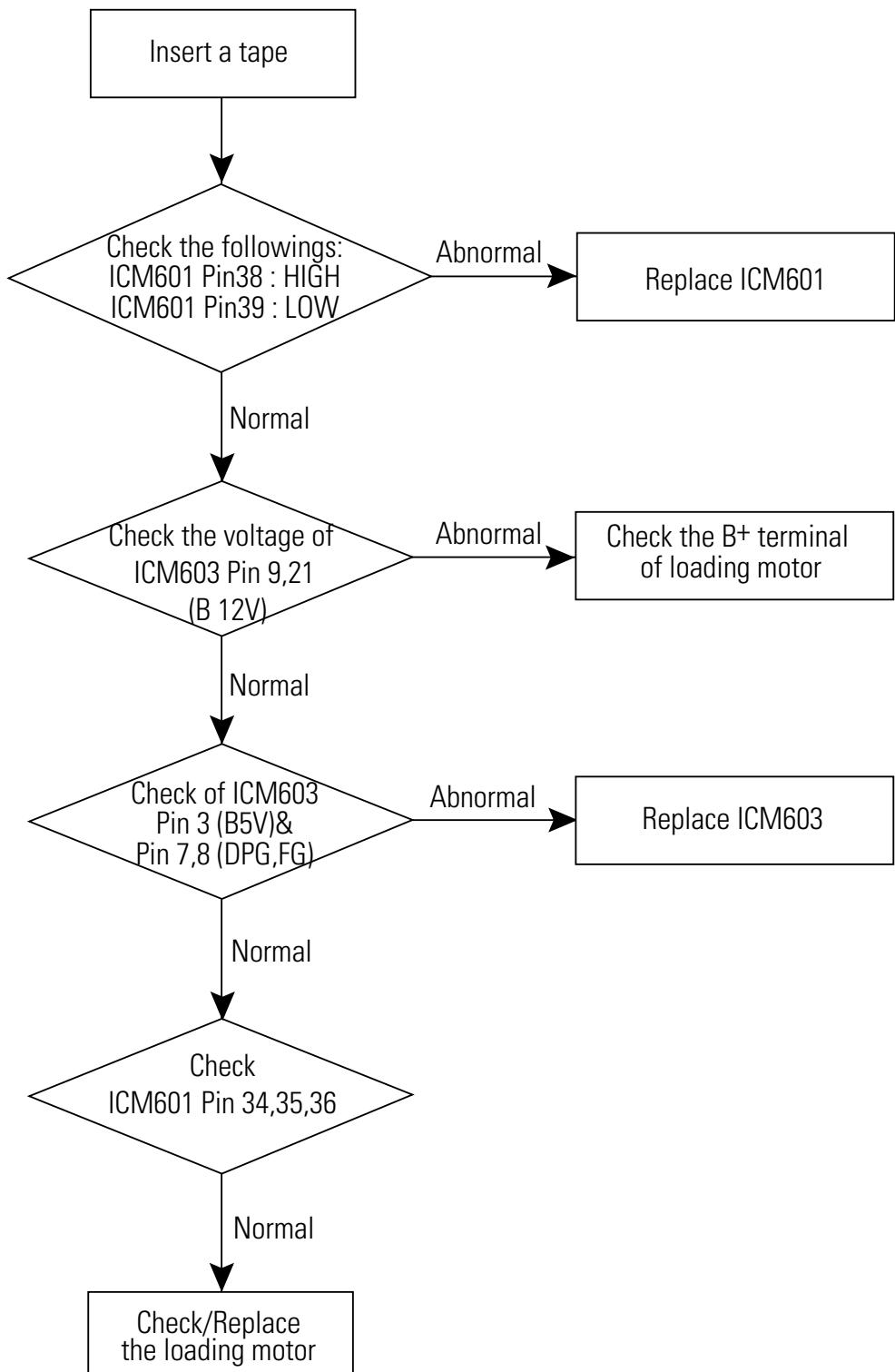
## 5-21 "Reverse Direction Search Screen "Doesn't Operate"

---

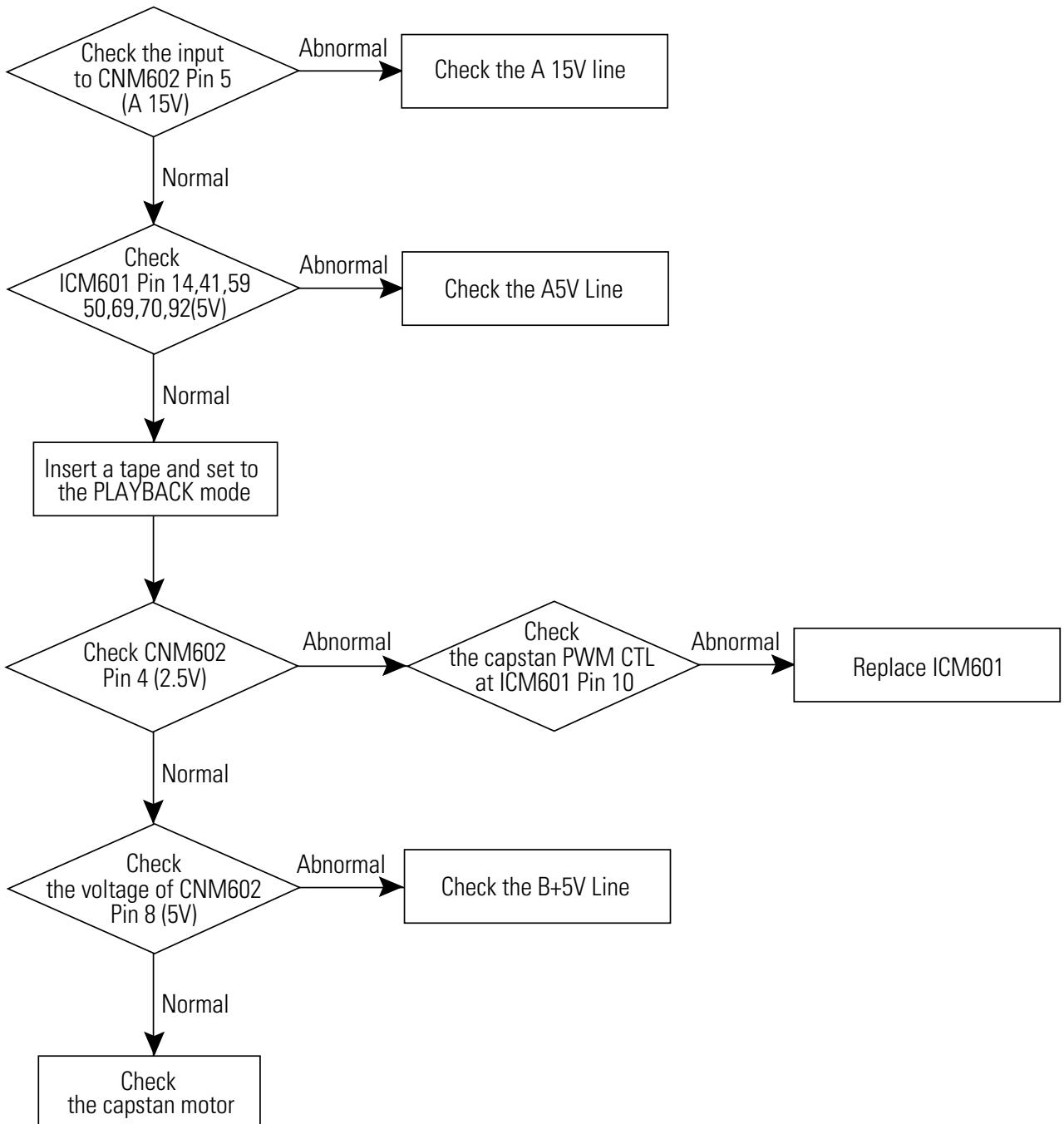


## 5-22 Tape Doesn't Load

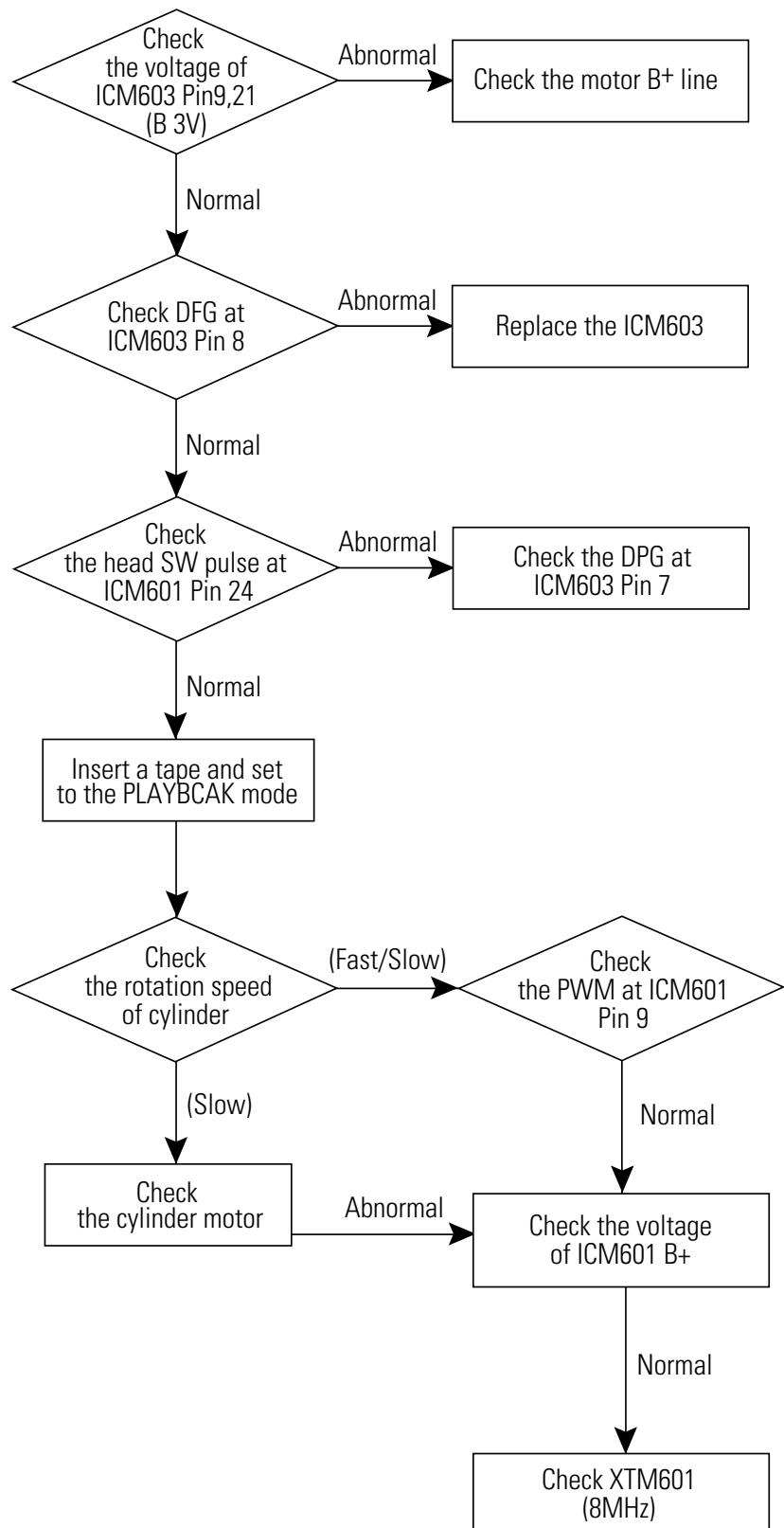
---



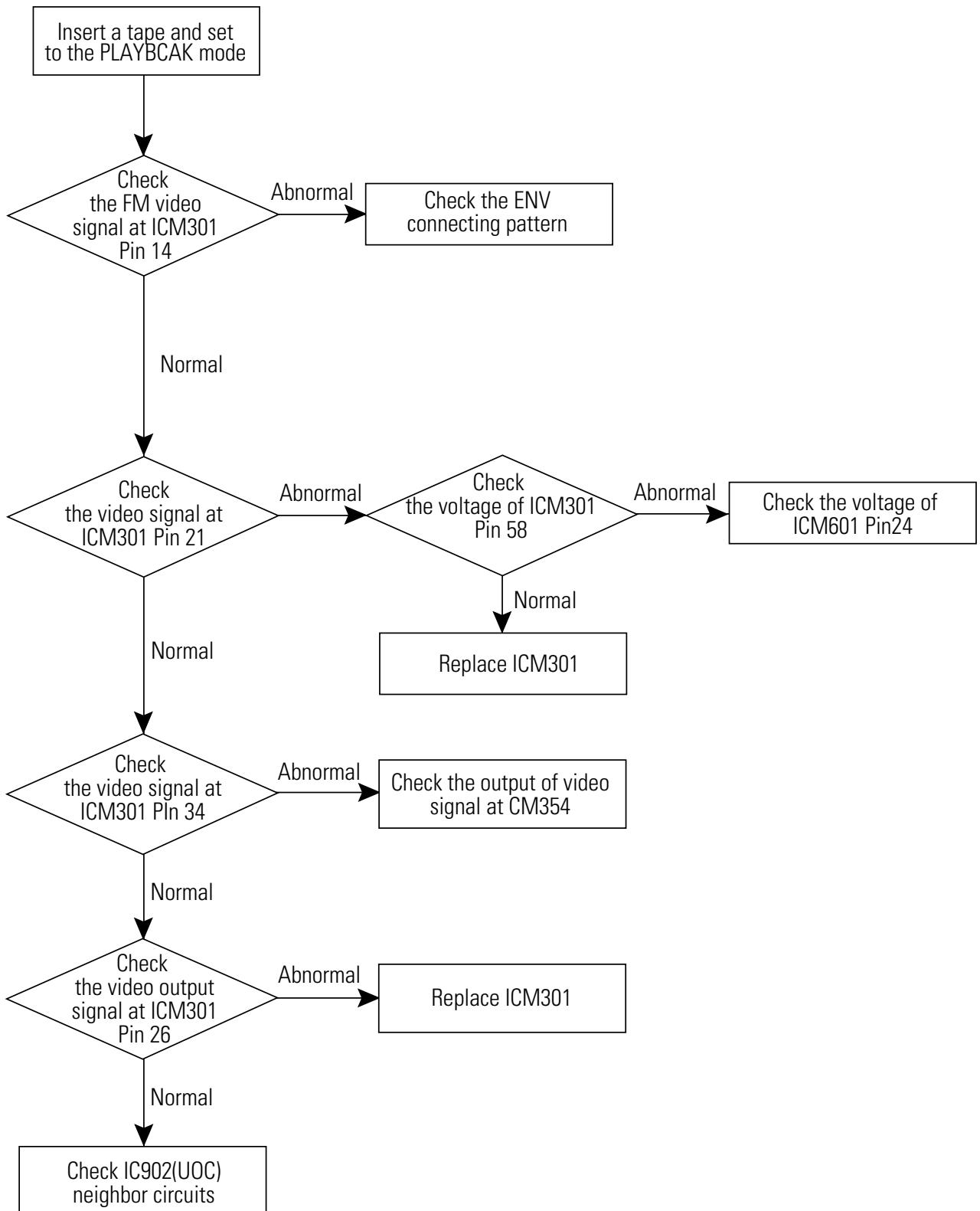
## 5-23 Capstan Doesn't Rotate



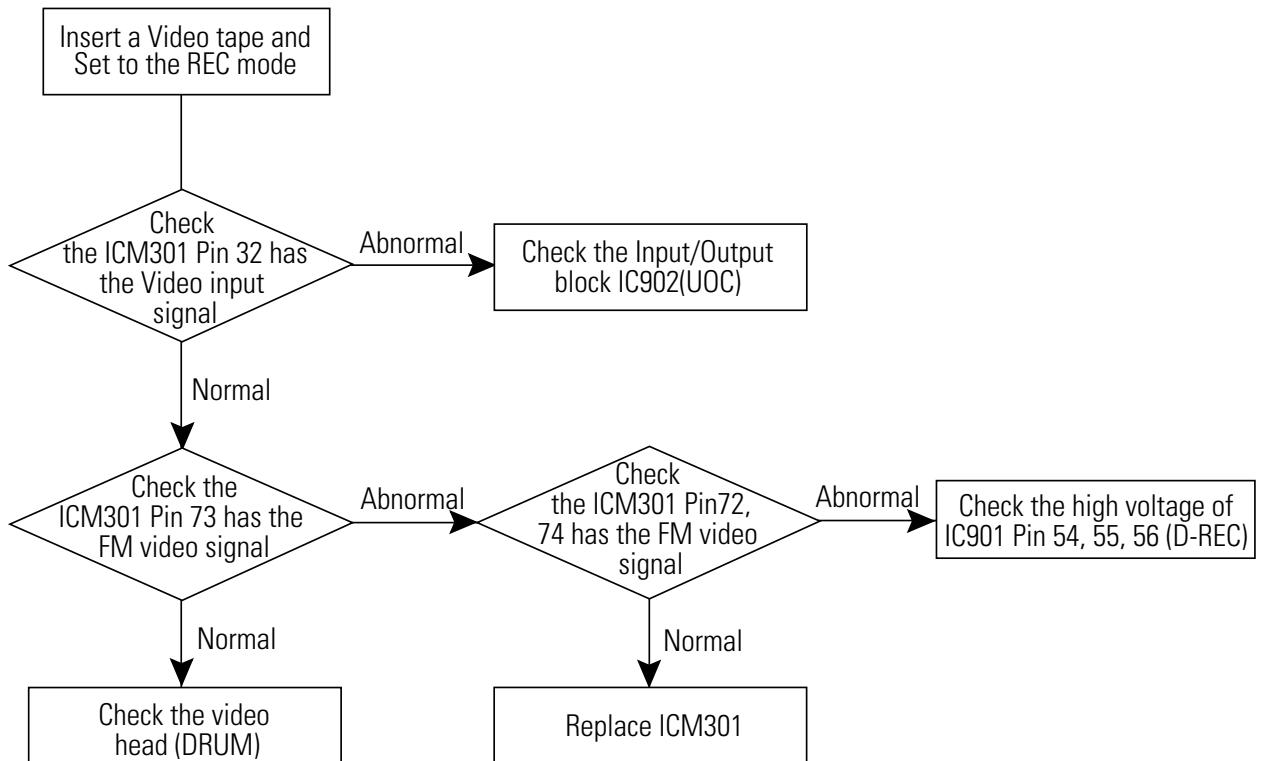
## 5-24 Cylinder Doesn't Rotate



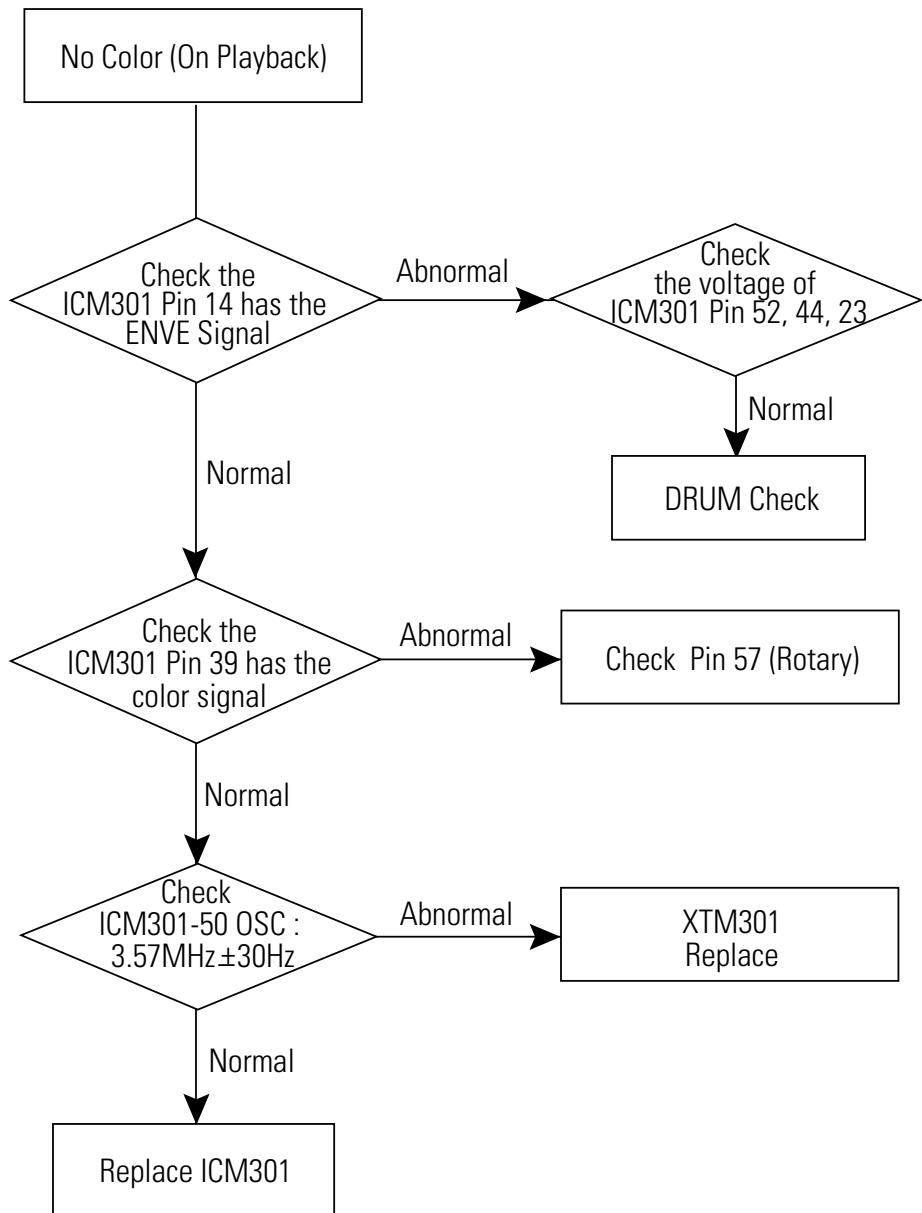
## 5-25 No Picture During Playback



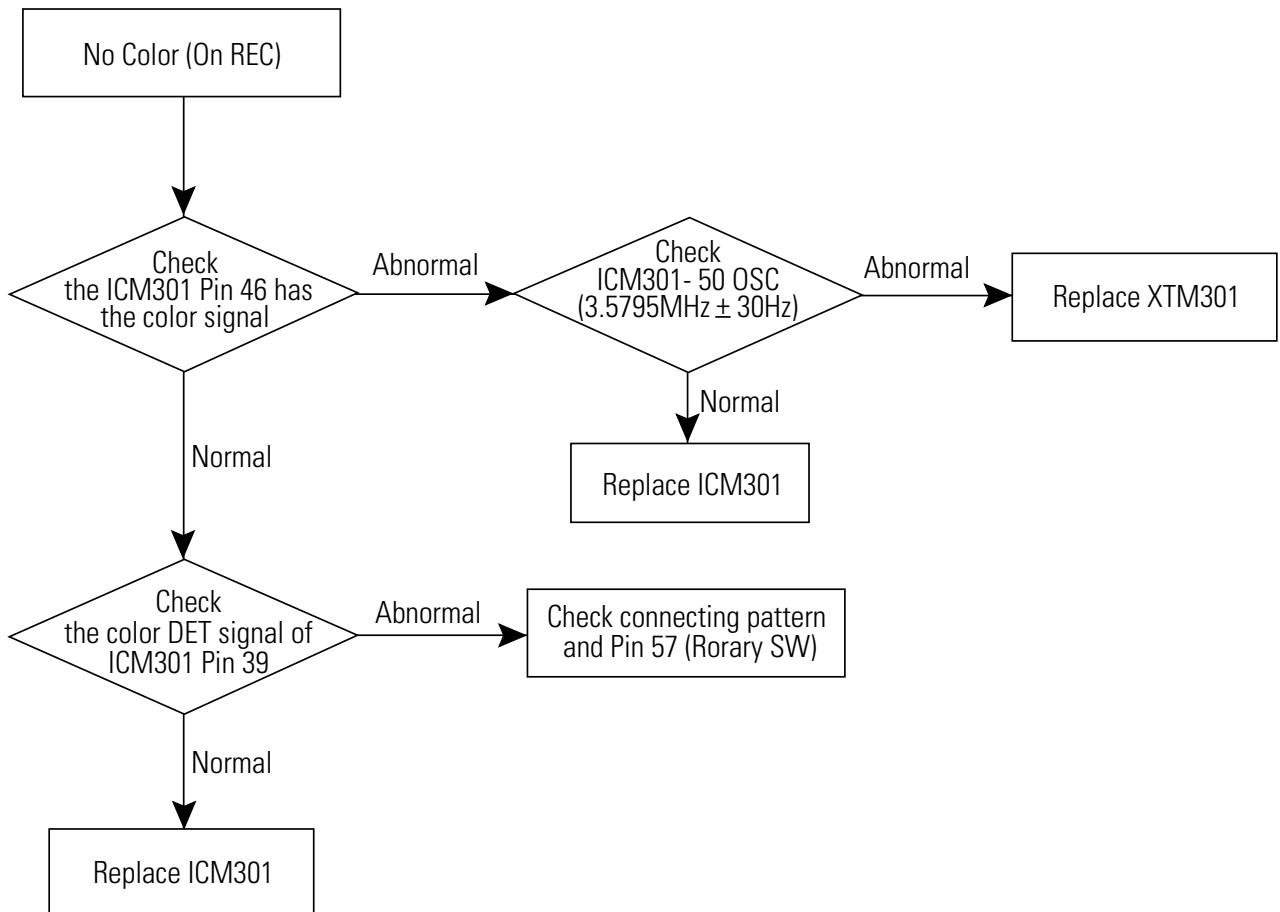
## 5-26 No Picture During Record

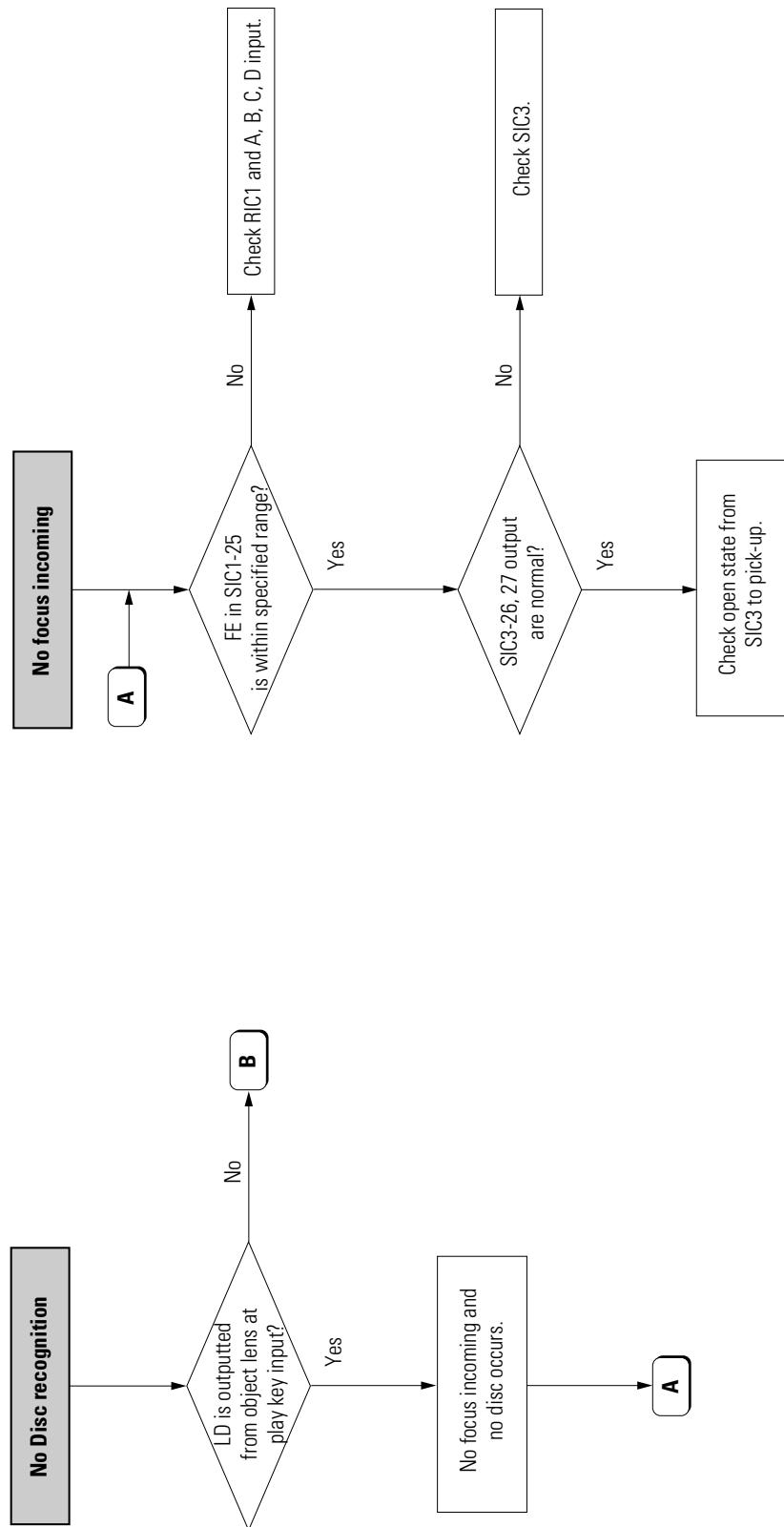


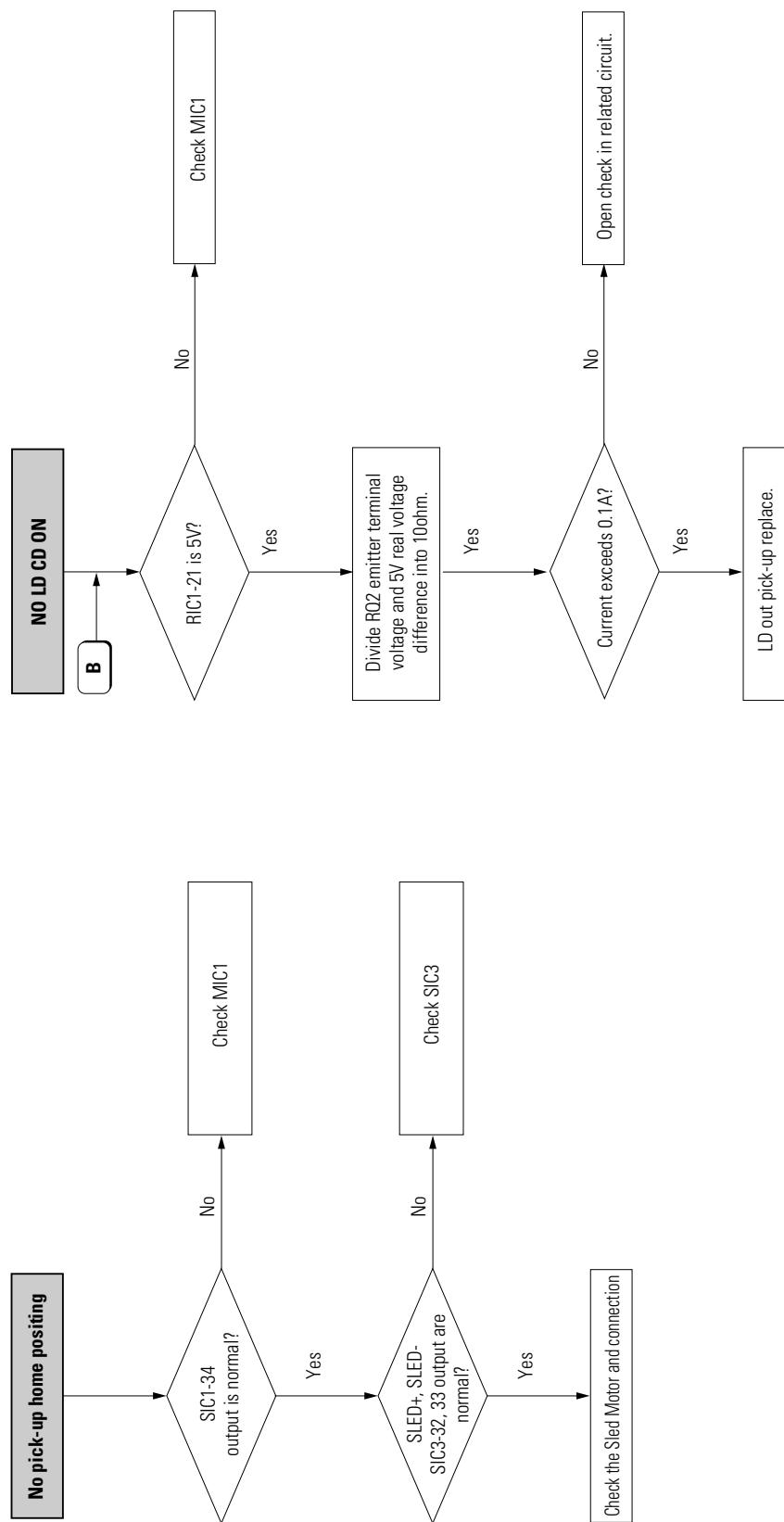
## 5-27 No Color During Playback

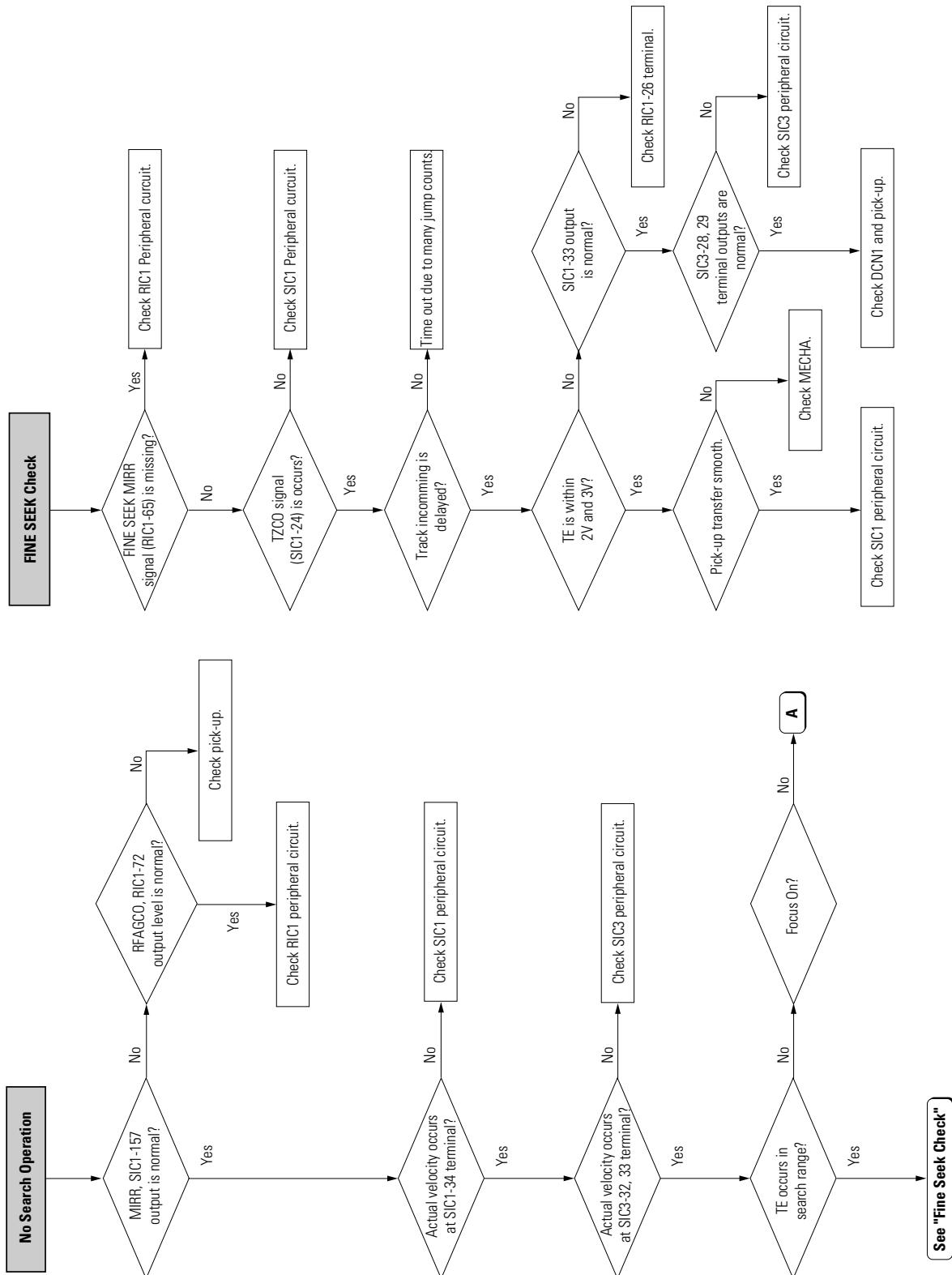


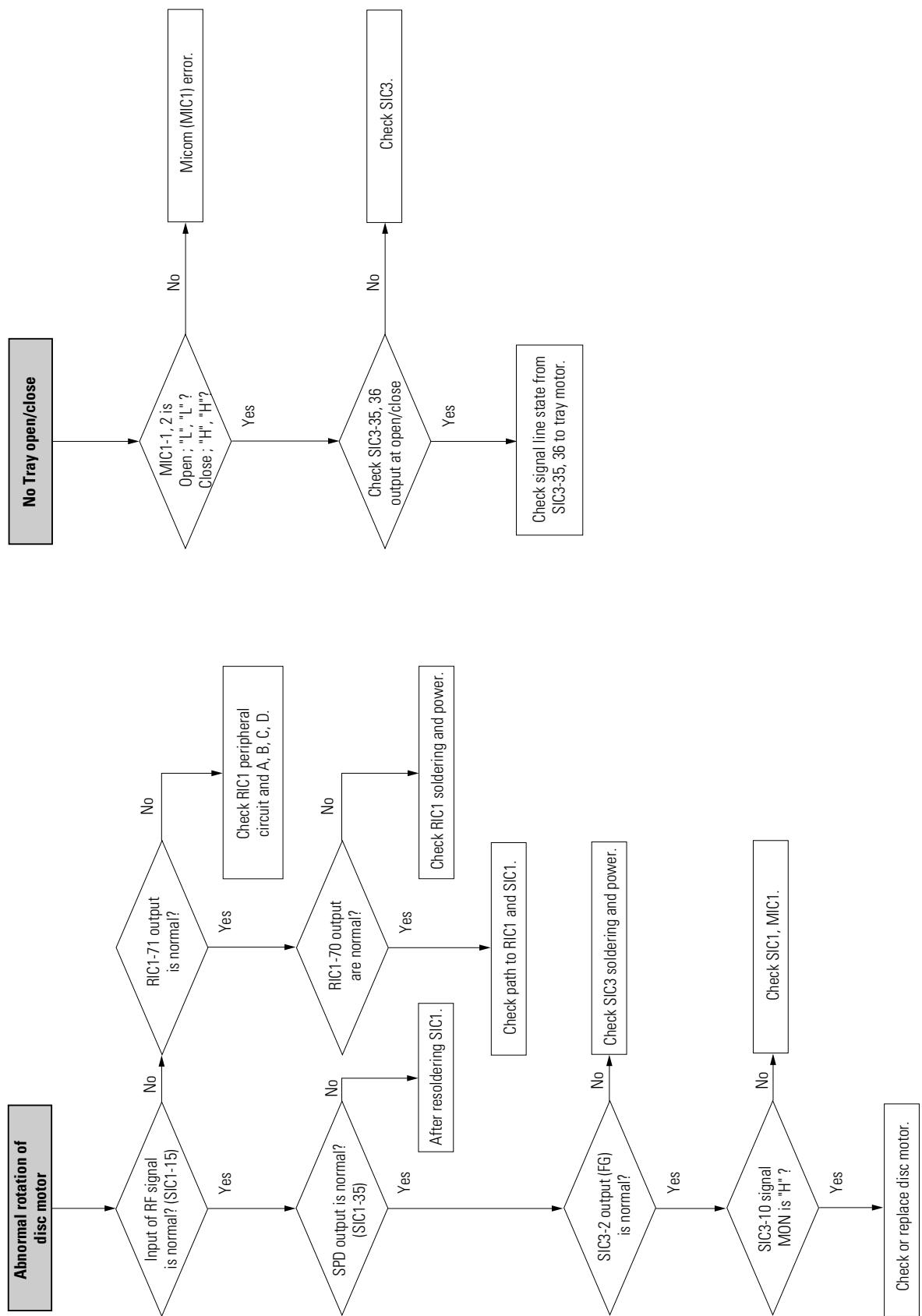
## 5-28 No Color During Record

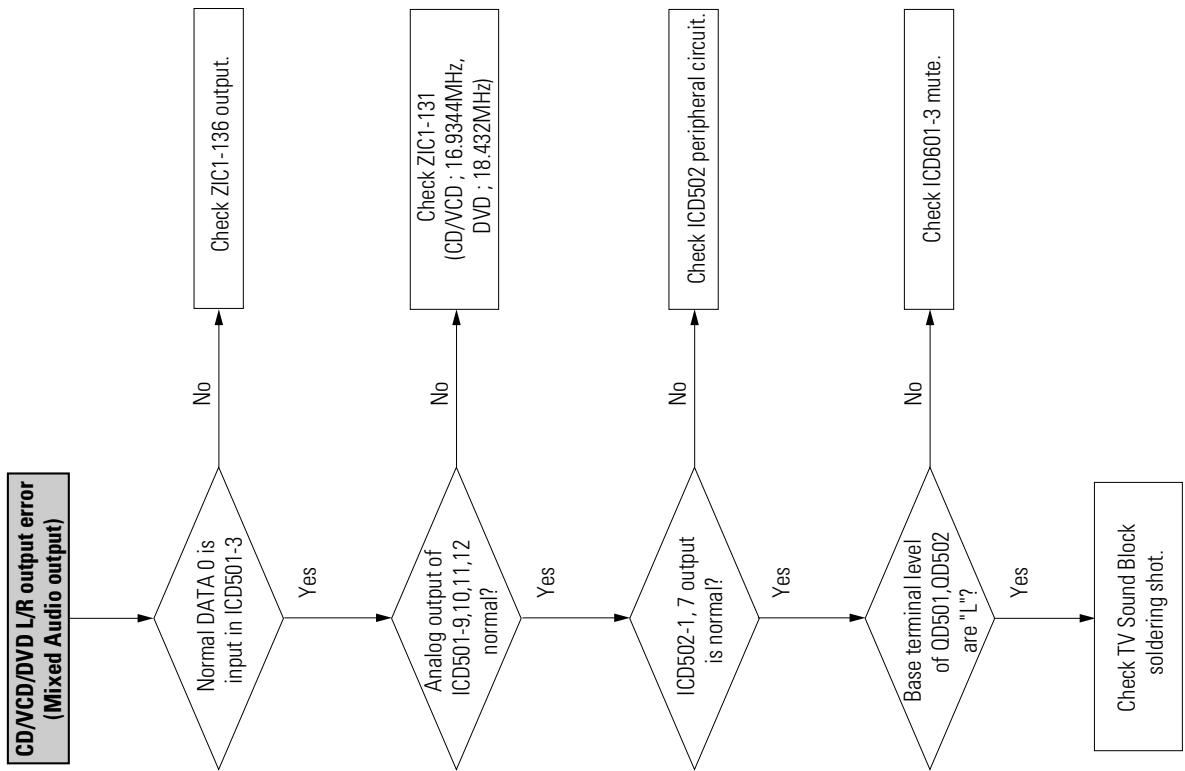


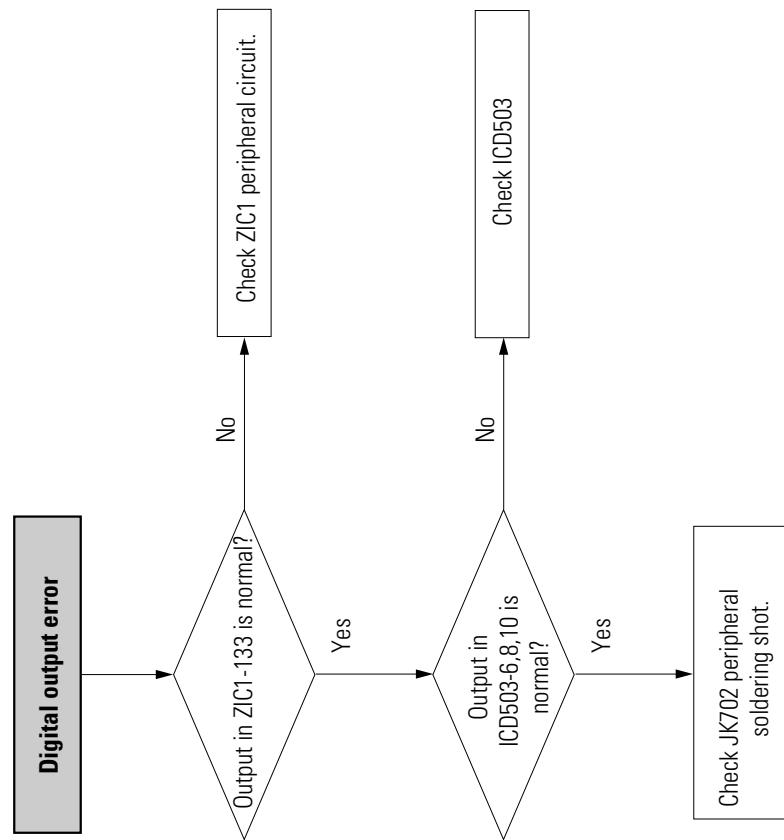
**5-29 DVD Block**





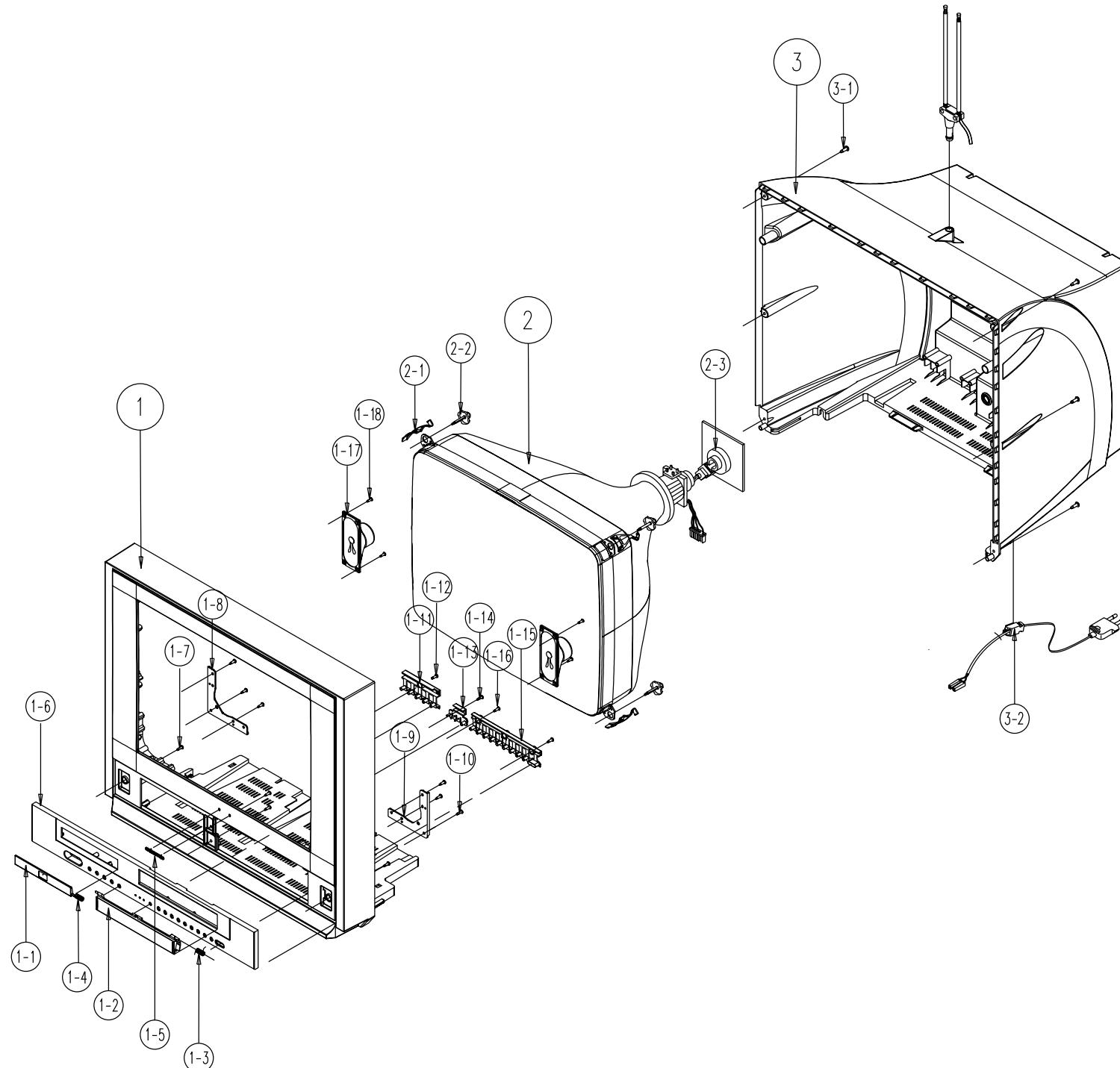






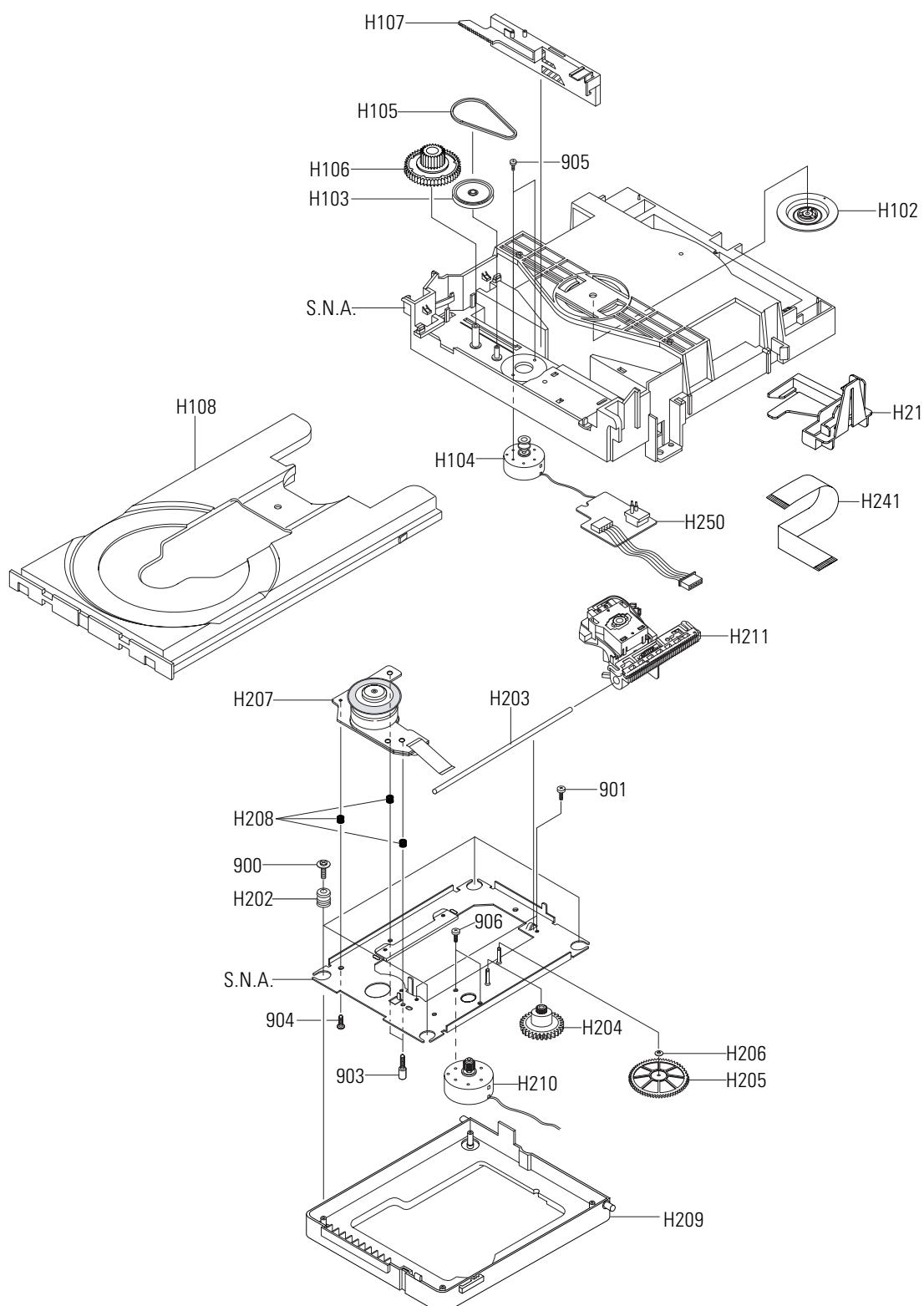
## 6. Exploded View & Parts List

### 6-1 CFTD2083TX/SMS



| No   | Code No     | Description;Specification                | Q'ty | Remark | S.N.A |
|------|-------------|--|------|--------|-------|
| 1    | AA64-02810A | CABINET-FRONT;21J5,HIPS,V0,G4309,SV808P  | 1    | F/C    |       |
| 1-1  | AA64-02814A | DOOR-TRAY;21J5,ABS HB,G4309,SV808P       | 1    | DT     |       |
| 1-2  | AA64-02960A | DOOR-HOUSUNG;21J5,ABS HB,G4309,SV808P    | 1    | DH     |       |
| 1-3  | AA61-01224A | SPRING ETC-DOOR,VCR;21J5,SUS304,T0.4     | 1    | SDV    |       |
| 1-4  | AA61-01223A | SPRING ETC-DOOR,DVD;21J5,SUS304,T0.3     | 1    | SDD    |       |
| 1-5  | AA64-02890B | BADGE-BRAND;50MM,AL FORGING,T1.5,10.0,50 | 1    | BADGE  |       |
| 1-6  | AA64-02812A | PANEL-CONTROL;21J5,HIPS,V0,G4309,SV808P  | 1    | PANEL  |       |
| 1-7  | 6003-001026 | SCREW-TAPITTE;RH,+,B,M4,L15,ZPC(BLK),SWR | 4    | PC+CF  |       |
| 1-8  | AA61-01225A | BRACKET-CRT;21J5,SECC,T2.0 1             | 1    | BRK    |       |
| 1-9  | AA61-01225A | BRACKET-CRT;21J5,SECC,T2.0 1             | 1    | BRK    |       |
| 1-10 | AA60-10050T | SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW | 6    | BRKT+C |       |
| 1-11 | AA64-02816A | KNOB-DVD;21J5,ABS,HB,G3676,DG703P+W971   |      | KD     |       |
| 1-12 | 6003-001026 | SCREW-TAPITTE;RH,+,B,M4,L15,ZPC(BLK),SWR | 1    | KD+CF  |       |
| 1-13 | AA64-02819A | WINDOW-LED;21J5,PC,CLR                   | 1    | WL     |       |
| 1-14 | 6003-001026 | SCREW-TAPITTE;RH,+,B,M4,L15,ZPC(BLK),SWR | 1    | WR+CF  |       |
| 1-15 | AA64-02815A | KNOB-FAMILY;21J5,ABS,HB,G3676,DG703P+W97 | 1    | KF     |       |
| 1-16 | 6003-001026 | SCREW-TAPITTE;RH,+,B,M4,L15,ZPC(BLK),SWR | 2    | KF+CF  |       |
| 1-17 | 3001-001020 | SPEAKER;3W,8ohm,90dB,140Hz               | 2    | SPK    |       |
| 1-18 | 6003-001026 | SCREW-TAPITTE;RH,+,B,M4,L15,ZPC(BLK),SWR | 4    | SPK+CF |       |
| 2    | AA03-00317A | CRT COLOR;A51QDX992X,0MG,1.85MH,18.0MH,2 | 1    | CRT    |       |
| 2-1  | AA65-00009B | CLAMP-D,COIL;NYLON 66,V0,-,-,21A8,-      | 4    | CDCOIL |       |
| 2-2  | AA60-10050R | SCREW-ASSY;WC,HH,+M5,L31.5,SWR           | 4    | CRT+CF |       |
| 2-3  | 3704-001105 | SOCKET-CRT;11P,20PI,26.5PI,NI,-          | 1    | V999S  |       |
| 3    | AA64-02811A | CABINET-BACK;21J5,HIPS,V0,BLK            | 1    | B/C    |       |
| 3-1  | AA60-10050T | SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW | 6    | CB+CF  |       |
| 3-2  | AA96-20129K | ASSY POWER CORD;,EP2/YES,H/S 450MM,KJ10W | 1    | PWR/AC |       |

## **6-2 DVD Deck Assembly**



| Loc. No | Parts No.   | Description ; Specification               | Remark   |
|---------|-------------|---|----------|
| 900     | 6003-001157 | SCREW-TAPTITE;PWH,+,B,M2,L6,ZPC(YEL),SWR  |          |
| 901     | 6001-001522 | SCREW-MACHINE;FH,+,M2.6,L7,ZPC(YEL),SWRC  |          |
| 903     | 6009-001245 | SCREW-SPECIAL;SWRCH18A,NYLOCK,SOCKET,HEX  |          |
| 904     | 6001-001466 | SCREW-MACHINE;BH,+,M2,L6,ZPC(BLK),SWRCH1  |          |
| 905     | 6001-001257 | SCREW-MACHINE;PWH,+,M1.7,L3,ZPC(YEL),SWR  |          |
| 906     | AH60-00010A | SCREW-MACHINE-MOTOR;-,+ ,SWCH18AK,M1.7,L2 |          |
| H102    | AH66-00111B | CLAMPER-ASSY;DP-5,POM+MAGNET,-,-,-,-,-    |          |
| H103    | AH66-00123A | PULLEY-GEAR;DP-7,POM M90-44,-,-,-,-       |          |
| H104    | AH31-00024A | MOTOR-LOAD ASSY;SM-2412L2,DP-7,-,-,-,-    |          |
| H105    | 6602-001076 | BELT-RECTANGULAR;CR,T1.2,4.3%,1.2X25.1,B  |          |
| H106    | AH66-00124A | GEAR-TRAY;DP-7,POM,M90-44,-,-,-,-,-       |          |
| H107    | AH66-00125A | LIDER-HOUSING;DP-7,POM,-,-,-,-,-          |          |
| -H108   | AH63-00217A | RAY-DISC;-,ABS,-,-,-,BLK,DP-7             |          |
| H202    | AH73-00023A | RUBBER-INSULATOR;BUTYL RUBBER,-,DP-3,     |          |
| H203    | AH61-50327A | SHAFT-P/U;DP-3,SUS420J2,L84.7,OD3,-,-     |          |
| H204    | AH66-00075A | GEAR-FEED A;-,POM M90-44,-,-,-,-,-        |          |
| H205    | AH66-00170A | GEAR-FEED B;DP-7S,POM M90-44,0.5,14,-,-   |          |
| H206    | AC60-30306A | WASHER-SLIT;-,ID2.1,OD5.0,T0.5,-,POLYS    |          |
| H207    | AH31-00032A | OTOR-SPINDLE ASSY;RSM-2610F1,DP-7S,-,-    |          |
| H208    | AH61-00403A | SPRING ETC-SPINDLE;DP-5,SWPB,PI4.9,-,-,-  |          |
| H209    | AH61-00513A | CHASSIS-SUB;DP-7,ABS(SR-0320),-, -, -, -, |          |
| H210    | AH31-00016A | MOTOR-FEED ASSY;-,DP-5,-,-                |          |
| H211    | AH97-00961A | ASSY-PICK UP;-,SOH-DS2,SEM,W/T            | COMMON   |
|         | AH97-00900A | ASSY-PICK UP;-,SOH-DS2,ASSY-PICK-UP       | CIS ONLY |
| H212    | AH61-00891A | HOLDER-FFC;DP-7S,PP1,-,-,NTR,-            |          |
| H241    | 3809-001303 | CABLE-FLAT;30V,80C,230MM,24P,1MM,UL2896   |          |
| H250    | AH92-00900A | ASSY-HOUSING PCB;DVD-M101,MILLENO DECK(B) |          |

## 7. Electrical Parts List

### 7-1 CFTD2083TX/SMS

| Level               | Loc. No. | Code No.    | Description ; Specification              | Remark | Level | Loc. No.    | Code No.                       | Description ; Specification              | Remark |
|---------------------|----------|-------------|--|--------|-------|-------------|--------------------------------|--|--------|
| <b>ASSY CHASSIS</b> |          |             |  |        |       |             |                                |  |        |
| 1                   | A/CHAS   | AA91-05214A | ASSY CHASSIS;CFTD2083TX/SMS,V18A         |        | 4     | QM304       | 0501-000010                    | TR-SMALLSIGNAL;KSC1008,NPN,80V           |        |
| 2                   | A/MAIN   | AA94-11151A | ASSY PCB MAIN;TORNADO,V18A               |        | 4     | Q203        | 0501-000283                    | TRANSISTOR;KSA539-Y(TAPG)/YTAM           |        |
| 3                   | PTM601   | 0604-001122 | PHOTO-INTERRUPTER;TR,0.065%,150mW,DIP-4, |        | 4     | Q701        | 0501-000283                    | TRANSISTOR;KSA539-Y(TAPG)/YTAM           |        |
| 3                   | PTM602   | 0604-001122 | PHOTO-INTERRUPTER;TR,0.065%,150mW,DIP-4, |        | 4     | Q702        | 0501-000283                    | TRANSISTOR;KSA539-Y(TAPG)/YTAM           |        |
| 3                   | ICM603   | 1003-001318 | IC-MOTOR DRIVER;LB11880,DIP30P,417MIL,-  |        | 4     | Q703        | 0501-000283                    | TRANSISTOR;KSA539-Y(TAPG)/YTAM           |        |
| 3                   | JK702    | 3707-001005 | CONNECTOR-OPTICAL;PLUG,SM.,4.4/2.0MM     |        | 4     | QM303       | 0501-000303                    | TR-SMALLSIGNAL;KSA733,PNP,250M           |        |
| 3                   | CNM301   | 3708-000391 | CONNECTOR-FPC/FFC;PIC,10P,1.25mm,STRAIGH |        | 4     | QM305       | 0501-000303                    | TR-SMALLSIGNAL;KSA733,PNP,250M           |        |
| 3                   | CNM302   | 3708-000394 | CONNECTOR-FPC/FC;PIC,6P,1.25mm,STRAIGHT, |        | 4     | QM307       | 0501-000303                    | TR-SMALLSIGNAL;KSA733,PNP,250M           |        |
| 3                   | CNM604   | 3708-001053 | CONNECTOR-FPC/FC;PIC,7P,1.2MM,           |        | 4     | QM308       | 0501-000303                    | TR-SMALLSIGNAL;KSA733,PNP,250M           |        |
| 3                   | CNM303   | 3710-001648 | CONNECTOR-SOCKET;2P1R,2.5mm,STRAIGHT,SN  |        | 4     | Q901        | 0501-000362                    | TRANSISTOR;KSC2328A-Y/ZSC2655-           |        |
| 3                   | CN005    | 3711-002642 | POST-HEADER;67094-003(AUTO)              |        | 4     | QM101       | 0501-000362                    | TRANSISTOR;KSC2328A-Y/ZSC2655-           |        |
| 3                   | CN004    | 3711-003051 | CONNECTOR-HEADER;BOX,8P,1R,2.5MM,STRAIGH |        | 4     | QM104       | 0501-000362                    | TRANSISTOR;KSC2328A-Y/ZSC2655-           |        |
| 3                   | CNM602   | 3711-003749 | 4320ECTOR-HEADER;BOX,8P,2R,2mm,STRAIGHT, |        | 4     | QM105       | 0501-000362                    | TRANSISTOR;KSC2328A-Y/ZSC2655-           |        |
| 3                   | CN701    | 3711-003973 | CONNECTOR-HEADER;BOX,11P,1R,2.5mm,STRAIG |        | 4     | QM306       | 0501-000398                    | TR-SMALLSIGNAL;KSC945,NPN,60V,           |        |
| 3                   | JK701    | 3722-001215 | JACK-PIN;9P(6P),3.4mm,SN,BLK,#16-22      |        | 4     | QM301       | 0501-000442                    | TR-SMALL SIGNAL;KTC3203-Y,NPN,400mW,T0-9 |        |
| 3                   | CNM32A   | 3809-001206 | CABLE-FLAT;30V,-20to+800,140mm,6P,1.25mm |        | 4     | QM302       | 0501-000442                    | TR-SMALL SIGNAL;KTC3203-Y,NPN,400mW,T0-9 |        |
| 3                   | CNM64A   | 3809-001312 | CABLE-FLAT;30V,80C,110MM,7P,1.25MM,UL289 |        | 4     | QM103       | 0504-000118                    | TR-DIGITAL;KSR1003,NPN,300MW,2           |        |
| 3                   | FLM301   | AA26-10006C | TRANS-IF;7ML,BIAS,-7MM,3100PF            |        | 4     | QM701       | 0504-000118                    | TR-DIGITAL;KSR1003,NPN,300MW,2           |        |
| 3                   | SWM601   | AA34-20001A | SWITCH-MODE;1,25x14.6x29.8mm,BK,DC5V     |        | 4     | QM702       | 0504-000118                    | TR-DIGITAL;KSR1003,NPN,300MW,2           |        |
| 3                   | SWM602   | AA34-40001A | SWITCH-REC.;1EA,37.5x14.4mm,BK,DC5V      |        | 4     | QM703       | 0504-000118                    | TR-DIGITAL;KSR1003,NPN,300MW,2           |        |
| 3                   | CNU01    | AA39-00180D | LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS |        | 4     | QM102       | 0504-000142                    | TR-DIGITAL;KSR2001,PNP,300MW,4           |        |
| 3                   | CN003    | AA39-00180D | LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS |        | 4     | ICM605      | 1203-000642                    | IC-RESET;572,TO-92,3P,,PLASTI            |        |
| 3                   | CNM601   | AA39-20603A | LEAD CONNECTOR-ASSY;-,GIL-S-2S-S2C2-S,YB |        | 4     | R344        | 2001-000004                    | R-CARBON;200KOHM,5%,1/8W,AA,TP           |        |
| 3                   | REM701   | AA59-60003V | MODULE-REMOCON;DP,SRV-18,38kHz,940nm,MES |        | 4     | R211        | 2001-000008                    | R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM  |        |
| 3                   | GPM001   | AA63-00444B | GROUND;TVCR,PBS,T0.3,SUS-DECK            |        | 4     | RM323       | 2001-000008                    | R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM  |        |
| 3                   | LDM602   | AA91-60318A | ASSY-HOLDER,LED;-,ABS,HB,BLK,IR LED,TS-D |        | 4     | RM334       | 2001-000008                    | R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM  |        |
| 4                   |          | 0601-001303 | LED-IR,SIDE-VIEW,2.5MM,75MW,6V,950NM,    |        | 4     | RM622       | 2001-000010                    | R-CARBON;68Kohm,5%,1/8W,AA,TP,1.8x3.2mm  |        |
| 4                   |          | AA61-00003A | HOLDER-LED;TVN-502V,ABS,-,-,BLK,HB       |        | 4     | RM346       | 2001-000012                    | R-CARBON;680Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        |
| 3                   | SM601    | AA91-60319A | ASSY-HOLDER,SENSOR;-,ABS,HB,BLK,TR LED,T |        | 4     | R707        | 2001-000037                    | R-CARBON(S);3300HM,5%,1/2W,AA,           |        |
| 3                   | SM602    | AA91-60319A | ASSY-HOLDER,SENSOR;-,ABS,HB,BLK,TR LED,T |        | 4     | RM101       | 2001-000109                    | R-CARBON(S);4700HM,5%,1/2W,AA,           |        |
| 4                   |          | 0603-001011 | PHOTO TR;NPN,35V,6V,50mA,75mW,BK         |        | 4     | RM667       | 2001-000118                    | R-CARBON(S);1800HM,5%,1/2W,AA,           |        |
| 4                   |          | AA61-00005A | HOLDER-SENSOR;TVN-502V,ABS,-,-,BLK,HB    |        | 4     | RM311       | 2001-000221                    | R-CARBON;1.2KOHM,5%,1/8W,AA,TP           |        |
| 3                   | LDM601   | AA96-00462A | ASSY LED GUIDE;-,DL-11S2R1,RED           |        | 4     | RM318       | 2001-000221                    | R-CARBON;1.2KOHM,5%,1/8W,AA,TP           |        |
| 3                   | IC901    | 1103-001106 | IC-EEPROM;24C080,1028x8BIT,DIP,8P,300MIL |        | 4     | RM347       | 2001-000221                    | R-CARBON;1.2KOHM,5%,1/8W,AA,TP           |        |
| 3                   | TPM01    | 3711-002643 | POST-HEADER;YW025-04(AUTO)               |        | 4     | RM340       | 2001-000241                    | R-CARBON;1.5KOHM,5%,1/8W,AA,TP           |        |
| 3                   | CN002    | 3711-003974 | CONNECTOR-HEADER;BOX,12P,2.5mm,STRAIG    |        | 4     | RM348       | 2001-000241                    | R-CARBON;1.5KOHM,5%,1/8W,AA,TP           |        |
| △                   | TU01S    | AA40-00021A | TUNER-F/S;TCPN3081PA09A(S),NTSC,TR,181CH |        | 4     | RM309       | 2001-000258                    | R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m  |        |
| 3                   |          | 0202-000008 | SOLDER-WIRE;S63S-D3.0,S63A,D3,63/37      |        | 4     | RM336       | 2001-000258                    | R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m  |        |
| 3                   |          | 0202-000187 | SOLDER-WIREFLUX;-,RS60S,D1,2,6           |        | 4     | RM338       | 2001-000258                    | R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m  |        |
| 3                   |          | 0204-000442 | SOLVENT;CH3-CH5-CH396%IM-1000            |        | 4     | RM349       | 2001-000258                    | R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m  |        |
| 3                   |          | 0204-001024 | FLUX;DF-96TVS,-20%,-                     |        | 4     | R221        | 2001-000273                    | R-CARBON;100KOHM,5%,1/8W,AA,TP           |        |
| 3                   | L/PQS    | AA68-01018A | LABEL-PQS;-,50mmX13,,-,WHITE,-           |        | 4     | R236        | 2001-000273                    | R-CARBON;100KOHM,5%,1/8W,AA,TP           |        |
| 3                   | A/AUTO   | AA96-01086A | ASSY PCB P-AUTO;V18A,20,TORNADO          |        | 4     | RM686       | 2001-000273                    | R-CARBON;100KOHM,5%,1/8W,AA,TP           |        |
| 4                   | D201     | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        | 4     | R104        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | D901     | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        | 4     | R105        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DM103    | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        | 4     | R215        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DM104    | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        | 4     | R220        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DM105    | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        | 4     | R223        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DM501    | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        | 4     | R227        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DM605    | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        | 4     | R233        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DM606    | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        | 4     | R234        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | D101     | 0402-000132 | DIODE-RECTIFIER;1N4004,400V,1A,DO-41     |        | 4     | R235        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | D902     | 0402-000132 | DIODE-RECTIFIER;1N4004,400V,1A,DO-41     |        | 4     | R601        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DM101    | 0402-000132 | DIODE-RECTIFIER;1N4004,400V,1A,DO-41     |        | 4     | R602        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DM102    | 0402-000132 | DIODE-RECTIFIER;1N4004,400V,1A,DO-41     |        | 4     | R901        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DM106    | 0402-000132 | DIODE-RECTIFIER;1N4004,400V,1A,DO-41     |        | 4     | R902        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DZ701    | 0403-000508 | DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500 |        | 4     | R903        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DZM701   | 0403-000508 | DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500 |        | 4     | R904        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DZ601    | 0403-000719 | DIODE-ZENER;MTZJ7.5B,7.5V,7.07-7.45V,500 |        | 4     | R905        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DZ602    | 0403-000719 | DIODE-ZENER;MTZJ7.5B,7.5V,7.07-7.45V,500 |        | 4     | R906        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DZM103   | 0403-000720 | DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500 |        | 4     | R907        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DZM101   | 0403-001211 | DIODE-ZENER;MTZJ12B,11.44-12.03V,500mW,D |        | 4     | R908        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DZ901    | 0403-001317 | DIODE-ZENER;MTZJ3.0B,3.01-3.22V,500mW,D  |        | 4     | R909        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DZ102    | 0403-001373 | DIODE-ZENER;MTZJ5.1A,4.81V-5.07V,500mW,D |        | 4     | R910        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4                   | DZM102   | 0403-001373 | DIODE-ZENER;MTZJ5.1A,4.81V-5.07V,500mW,D |        | 4     | R911        | 2001-000281                    | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
|                     |          |             |  | 4      | R912  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP, |  |        |
|                     |          |             |  | 4      | R913  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP, |  |        |
|                     |          |             |  | 4      | R914  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP, |  |        |
|                     |          |             |  | 4      | R915  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP, |  |        |

Electric Parts List

| Loc. No. | Code No. | Description ; Specification            | Remark | Loc. No. | Code No. | Description ; Specification | Remark                                   |
|----------|----------|--|--------|----------|----------|-----------------------------|--|
| 4        | R916     | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | RM664    | 2001-000429                 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm   |
| 4        | R917     | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | RM668    | 2001-000429                 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm   |
| 4        | R934     | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | RM671    | 2001-000429                 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm   |
| 4        | RM301    | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | RM679    | 2001-000429                 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm   |
| 4        | RM341    | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | RM680    | 2001-000429                 | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm   |
| 4        | RM342    | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | R918     | 2001-000449                 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP           |
| 4        | RM359    | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | R928     | 2001-000449                 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP           |
| 4        | RM510    | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | R929     | 2001-000449                 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP           |
| 4        | RM511    | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | R930     | 2001-000449                 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP           |
| 4        | RM618    | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | RM102    | 2001-000449                 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP           |
| 4        | RM628    | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | RM345    | 2001-000449                 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP           |
| 4        | RM629    | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | RM303    | 2001-000458                 | R-CARBON;2.2ohm,5%,1/8W,AA,TP,1.8x3.2mm  |
| 4        | RM630    | R-CARBON;1000HM,5%,1/8W,AA,TP          |        | 4        | R515     | 2001-000472                 | R-CARBON;2.7KOHM,5%,1/8W,AA,TP           |
| 4        | R230     | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM506    | 2001-000472                 | R-CARBON;2.7KOHM,5%,1/8W,AA,TP           |
| 4        | R936     | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM343    | 2001-000508                 | R-CARBON;220KOHM,5%,1/8W,AA,TP           |
| 4        | RM310    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | R231     | 2001-000515                 | R-CARBON;2200HM,5%,1/8W,AA,TP            |
| 4        | RM313    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | R711     | 2001-000515                 | R-CARBON;2200HM,5%,1/8W,AA,TP            |
| 4        | RM351    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM669    | 2001-000515                 | R-CARBON;2200HM,5%,1/8W,AA,TP            |
| 4        | RM354    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM670    | 2001-000515                 | R-CARBON;2200HM,5%,1/8W,AA,TP            |
| 4        | RM607    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM302    | 2001-000522                 | R-CARBON;22KOHM,5%,1/8W,AA,TP            |
| 4        | RM642    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM320    | 2001-000522                 | R-CARBON;22KOHM,5%,1/8W,AA,TP            |
| 4        | RM644    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM602    | 2001-000522                 | R-CARBON;22KOHM,5%,1/8W,AA,TP            |
| 4        | RM646    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM604    | 2001-000522                 | R-CARBON;22KOHM,5%,1/8W,AA,TP            |
| 4        | RM665    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM666    | 2001-000522                 | R-CARBON;22KOHM,5%,1/8W,AA,TP            |
| 4        | RM674    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | R106     | 2001-000554                 | R-CARBON;2700HM,5%,1/8W,AA,TP            |
| 4        | RM681    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM601    | 2001-000554                 | R-CARBON;2700HM,5%,1/8W,AA,TP            |
| 4        | RM682    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM603    | 2001-000554                 | R-CARBON;2700HM,5%,1/8W,AA,TP            |
| 4        | RM683    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM361    | 2001-000554                 | R-CARBON;2700HM,5%,1/8W,AA,TP            |
| 4        | RM684    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | R219     | 2001-000563                 | R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM  |
| 4        | RM689    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | R222     | 2001-000563                 | R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM  |
| 4        | RM704    | R-CARBON;10KOHM,5%,1/8W,AA,TP          |        | 4        | RM304    | 2001-000563                 | R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM  |
| 4        | RM515    | R-CARBON;13KOHM,5%,1/8W,AA,TP          |        | 4        | RM316    | 2001-000563                 | R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM  |
| 4        | R605     | R-CARBON;1800HM,5%,1/8W,AA,TP          |        | 4        | R225     | 2001-000591                 | R-CARBON;3.3KOHM,5%,1/8W,AA,TP           |
| 4        | R606     | R-CARBON;1800HM,5%,1/8W,AA,TP          |        | 4        | RM688    | 2001-000613                 | R-CARBON;3.9KOHM,5%,1/8W,AA,TP           |
| 4        | RM308    | R-CARBON;1800HM,5%,1/8W,AA,TP          |        | 4        | RM678    | 2001-000633                 | R-CARBON;30KOHM,5%,1/8W,AA,TP            |
| 4        | RM352    | R-CARBON;18KOHM,5%,1/8W,AA,TP          |        | 4        | RM314    | 2001-000645                 | R-CARBON;33KOHM,5%,1/8W,AA,TP            |
| 4        | RM353    | R-CARBON;18KOHM,5%,1/8W,AA,TP          |        | 4        | RM507    | 2001-000660                 | R-CARBON;33KOHM,5%,1/8W,AA,TP            |
| 4        | R216     | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM617    | 2001-000660                 | R-CARBON;33KOHM,5%,1/8W,AA,TP            |
| 4        | R217     | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM514    | 2001-000679                 | R-CARBON;36KOHM,5%,1/8W,AA,TP            |
| 4        | R935     | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R103     | 2001-000702                 | R-CARBON;39KOHM,5%,1/8W,AA,TP            |
| 4        | RM103    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R218     | 2001-000702                 | R-CARBON;39KOHM,5%,1/8W,AA,TP            |
| 4        | RM305    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R708     | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM306    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R919     | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM317    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R920     | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM508    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R921     | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM512    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R922     | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM513    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R923     | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM605    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R924     | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM608    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R926     | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM609    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R927     | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM610    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R931     | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM611    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R932     | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM612    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM360    | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM621    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM650    | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM625    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM651    | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM626    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM652    | 2001-000734                 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |
| 4        | RM627    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM319    | 2001-000766                 | R-CARBON;43KOHM,5%,1/8W,AA,TP            |
| 4        | RM632    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM307    | 2001-000780                 | R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm  |
| 4        | RM633    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM322    | 2001-000780                 | R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm  |
| 4        | RM634    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM339    | 2001-000780                 | R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm  |
| 4        | RM635    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM502    | 2001-000786                 | R-CARBON;47KOHM,5%,1/8W,AA,TP            |
| 4        | RM636    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM503    | 2001-000786                 | R-CARBON;47KOHM,5%,1/8W,AA,TP            |
| 4        | RM637    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM615    | 2001-000786                 | R-CARBON;47KOHM,5%,1/8W,AA,TP            |
| 4        | RM638    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R603     | 2001-000812                 | R-CARBON;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2mm |
| 4        | RM639    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R604     | 2001-000812                 | R-CARBON;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2mm |
| 4        | RM640    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM312    | 2001-000812                 | R-CARBON;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2mm |
| 4        | RM641    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM331    | 2001-000832                 | R-CARBON;5100HM,5%,1/8W,AA,TP            |
| 4        | RM643    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM332    | 2001-000832                 | R-CARBON;5100HM,5%,1/8W,AA,TP            |
| 4        | RM645    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM659    | 2001-000832                 | R-CARBON;5100HM,5%,1/8W,AA,TP            |
| 4        | RM647    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R232     | 2001-000850                 | R-CARBON;560Kohm,5%,1/8W,AA,TP,1.8x3.2mm |
| 4        | RM648    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM606    | 2001-000850                 | R-CARBON;560Kohm,5%,1/8W,AA,TP,1.8x3.2mm |
| 4        | RM649    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | R101     | 2001-000864                 | R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm  |
| 4        | RM653    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM613    | 2001-000864                 | R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm  |
| 4        | RM654    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM614    | 2001-000864                 | R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm  |
| 4        | RM655    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM687    | 2001-000864                 | R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm  |
| 4        | RM656    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM335    | 2001-000878                 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP           |
| 4        | RM658    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        | 4        | RM509    | 2001-000878                 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP           |

| Loc. No. | Code No. | Description ; Specification                          | Remark | Loc. No. | Code No. | Description ; Specification                           | Remark |
|----------|----------|--|--------|----------|----------|---|--------|
| 4        | R226     | 2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1           |        | 4        | C227     | 2202-000796 C-CERAMIC,MLC-AXIAL;1NF,10%,50            |        |
| 4        | R228     | 2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1           |        | 4        | CM366    | 2202-000796 C-CERAMIC,MLC-AXIAL;1NF,10%,50            |        |
| 4        | R229     | 2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1           |        | 4        | CM659    | 2202-000796 C-CERAMIC,MLC-AXIAL;1NF,10%,50            |        |
| 4        | R706     | 2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1           |        | 4        | CM660    | 2202-000796 C-CERAMIC,MLC-AXIAL;1NF,10%,50            |        |
| 4        | R709     | 2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1           |        | 4        | CM640    | 2202-000806 C-CERAMIC,MLC-AXIAL;220pF,10%,50V,Y5P,TP  |        |
| 4        | RM357    | 2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1           |        | 4        | C218     | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | RM350    | 2001-000977 R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m  |        | 4        | C223     | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | RM501    | 2001-000977 R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m  |        | 4        | C234     | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | RM504    | 2001-000977 R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m  |        | 4        | C250     | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | RM106    | 2001-001077 R-CARBON(S);1500HM,5%,1/2W,AA,           |        | 4        | C902     | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | RM701    | 2001-001077 R-CARBON(S);1500HM,5%,1/2W,AA,           |        | 4        | C908     | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | RM702    | 2001-001077 R-CARBON(S);1500HM,5%,1/2W,AA,           |        | 4        | CM362    | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | RM703    | 2001-001077 R-CARBON(S);1500HM,5%,1/2W,AA,           |        | 4        | CM520    | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | R701     | 2001-001088 R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4  |        | 4        | CM620    | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | R702     | 2001-001088 R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4  |        | 4        | CM647    | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | RM104    | 2001-001107 R-CARBON(S);2200HM,5%,1/2W,AA,           |        | 4        | CM648    | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | RM355    | 2001-001108 R-CARBON(S);22KOHM,5%,1/2W,AA,           |        | 4        | CM649    | 2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V  |        |
| 4        | RM356    | 2001-001114 R-CARBON(S);2700HM,5%,1/2W,AA,           |        | 4        | C104     | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | R107     | 2003-000493 R-METAL OXIDE(S);12ohm,5%,2W,AF,TP,4x12m |        | 4        | C106     | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | RM505    | 2004-000500 R-METAL;2.7Kohm,1%,1/8W,AA,TP,1.8x3.2m   |        | 4        | C618     | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | RM619    | 2008-000253 R-FUSIBLE(S);0.470HM,5%,1W,AF,           |        | 4        | C910     | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM335    | 2201-000262 C-CERAMIC,DISC;180PF,10%,50V,Y           |        | 4        | C912     | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM337    | 2201-000262 C-CERAMIC,DISC;180PF,10%,50V,Y           |        | 4        | CM104    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM352    | 2201-000262 C-CERAMIC,DISC;180PF,10%,50V,Y           |        | 4        | CM109    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM318    | 2201-000863 c-CERAMIC,DISC;680PF,10%,50V,Y           |        | 4        | CM355    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM636    | 2202-000121 C-CERAMIC,MLC-AXIAL;100PF,10%,           |        | 4        | CM357    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | C233     | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM501    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | C712     | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM511    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM333    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM515    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM351    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM517    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM354    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM528    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM361    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM529    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM513    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM530    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM514    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM532    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM601    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM535    | 2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20          |        |
| 4        | CM612    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM512    | 2301-000104 C-FILM,PEF;1.2NF,5%,50V,6.5X3.0X5.5MM,5M  |        |
| 4        | CM617    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM306    | 2301-000160 C-FILM,PEF;12NF,5%,50V,11.0X6.            |        |
| 4        | CM621    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | C232     | 2301-000192 C-FILM,PEF;1NF,5%,50V,5.3X10MM            |        |
| 4        | CM630    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM510    | 2301-000224 C-FILM,PEF;22NF,5%,50V,7.4X3.9            |        |
| 4        | CM631    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | CM538    | 2301-000224 C-FILM,PEF;22NF,5%,50V,7.4X3.9            |        |
| 4        | CM644    | 2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2           |        | 4        | C614     | 2301-000232 C-FILM,PEF;3.3NF,5%,50V,8.1X4.            |        |
| 4        | C219     | 2202-000183 C-CERAMIC,CKOAX7R16VT222-MEP05           |        | 4        | C615     | 2301-000232 C-FILM,PEF;3.3NF,5%,50V,8.1X4.            |        |
| 4        | C247     | 2202-000183 C-CERAMIC,CKOAX7R16VT222-MEP05           |        | 4        | CM604    | 2301-000232 C-FILM,PEF;3.3NF,5%,50V,8.1X4.            |        |
| 4        | CM541    | 2202-000183 C-CERAMIC,CKOAX7R16VT222-MEP05           |        | 4        | CM305    | 2301-000254 C-FILM,PEF;39NF,5%,50V,7.5X3.5X6.5MM,5MM  |        |
| 4        | CM542    | 2202-000183 C-CERAMIC,CKOAX7R16VT222-MEP05           |        | 4        | CM308    | 2301-000301 C-FILM,PEF;6.8NF,5%,50V,6.5X5.            |        |
| 4        | CM632    | 2202-000183 C-CERAMIC,CKOAX7R16VT222-MEP05           |        | 4        | CM321    | 2301-000301 C-FILM,PEF;6.8NF,5%,50V,6.5X5.            |        |
| 4        | CM633    | 2202-000183 C-CERAMIC,CKOAX7R16VT222-MEP05           |        | 4        | CM603    | 2301-000310 C-FILM,PEF;68NF,5%,50V,8.0X8.5            |        |
| 4        | CM609    | 2202-000205 C-CERAMIC,MLC-AXIAL;22PF,5%,50           |        | 4        | CM623    | 2301-000310 C-FILM,PEF;68NF,5%,50V,8.0X8.5            |        |
| 4        | CM610    | 2202-000205 C-CERAMIC,MLC-AXIAL;22PF,5%,50           |        | 4        | CM313    | 2301-000314 C-FILM,PEF;8.2NF,5%,50V,6.5X3.            |        |
| 4        | C101     | 2202-000231 C-CERAMIC,MLC-AXIAL;330PF,10%,50V,Y5P3.  |        | 4        | CM320    | 2301-000314 C-FILM,PEF;8.2NF,5%,50V,6.5X3.            |        |
| 4        | C102     | 2202-000231 C-CERAMIC,MLC-AXIAL;330PF,10%,50V,Y5P3.  |        | 4        | CM317    | 2301-000342 C-FILM,PEF;2.2nF,5%,50V,TP,7.4x3.9x13mm,  |        |
| 4        | C221     | 2202-000253 C-CERAMIC,MLC-AXIAL;4.7nF,20%,16V,Y5R,TP |        | 4        | C610     | 2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5mm |        |
| 4        | CM634    | 2202-000263 C-CERAMIC,MLC-AXIAL;470PF,10%,50V,Y5P3.  |        | 4        | C611     | 2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5mm |        |
| 4        | C905     | 2202-000279 C-CERAMIC,MLC-AXIAL;47PF,5%,50           |        | 4        | C612     | 2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5mm |        |
| 4        | C906     | 2202-000279 C-CERAMIC,MLC-AXIAL;47PF,5%,50           |        | 4        | C613     | 2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5mm |        |
| 4        | CM350    | 2202-000286 C-CERAMIC,MLC-AXIAL;56PF,5%,50           |        | 4        | CM367    | 2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5mm |        |
| 4        | C248     | 2202-000286 C-CERAMIC,MLC-AXIAL;56PF,5%,50           |        | 4        | CM368    | 2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5mm |        |
| 4        | C241     | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | CM369    | 2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5mm |        |
| 4        | CM103    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | CM314    | 2301-000383 C-FILM,PEF;10nF,5%,50V,TP,6x7x3.2mm,5mm   |        |
| 4        | CM301    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | CM322    | 2301-000383 C-FILM,PEF;10nF,5%,50V,TP,6x7x3.2mm,5mm   |        |
| 4        | CM303    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | CM331    | 2301-000383 C-FILM,PEF;10nF,5%,50V,TP,6x7x3.2mm,5mm   |        |
| 4        | CM339    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | CM332    | 2301-000383 C-FILM,PEF;10nF,5%,50V,TP,6x7x3.2mm,5mm   |        |
| 4        | CM344    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | C231     | 2305-000196 C-FILM,MPEF;150nf,5%,63V,TP,-,5mm         |        |
| 4        | CM363    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | C238     | 2305-000196 C-FILM,MPEF;150nf,5%,63V,TP,-,5mm         |        |
| 4        | CM364    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | C239     | 2305-000196 C-FILM,MPEF;150nf,5%,63V,TP,-,5mm         |        |
| 4        | CM606    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | C240     | 2305-000196 C-FILM,MPEF;150nf,5%,63V,TP,-,5mm         |        |
| 4        | CM613    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | C913     | 2305-000289 C-FILM,MPEF;220NF,5%,63V,-,5MM            |        |
| 4        | CM615    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | C915     | 2305-000289 C-FILM,MPEF;220NF,5%,63V,-,5MM            |        |
| 4        | CM625    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | CM643    | 2305-000289 C-FILM,MPEF;220NF,5%,63V,-,5MM            |        |
| 4        | CM628    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | C601     | 2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4            |        |
| 4        | CM629    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | C602     | 2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4            |        |
| 4        | CM638    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | C603     | 2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4            |        |
| 4        | CM642    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | C604     | 2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4            |        |
| 4        | CM701    | 2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP |        | 4        | C605     | 2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4            |        |
| 4        | CM645    | 2202-000718 C-CERAMIC,MLC-AXIAL;3.9nf,20%,16V,Y5R,TP |        | 4        | C606     | 2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4            |        |
| 4        | CM646    | 2202-000718 C-CERAMIC,MLC-AXIAL;3.9nf,20%,16V,Y5R,TP |        | 4        | C607     | 2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4            |        |
| 4        | C226     | 2202-000796 C-CERAMIC,MLC-AXIAL;1NF,10%,50           |        | 4        | C621     | 2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4            |        |

## Electric Parts List

| Loc. No. | Code No. | Description ; Specification | Remark                            | Loc. No. | Code No. | Description ; Specification | Remark                                   |
|----------|----------|-----------------------------|-----------------------------------|----------|----------|-----------------------------|--|
| 4        | C904     | 2305-000412                 | C-FILM,MPEF;470NF,5%,63V,-5MM     | 4        | CM639    | 2401-002291                 | C-ELECTROLYTIC;CE04WTAPG16V47M           |
| 4        | CM527    | 2305-000665                 | C-FILM;104J, 60V,5MM TAPING       | 4        | CM503    | 2401-002299                 | C-AL;4.7UF,20%,50V,GP,TP,4X7,5           |
| 4        | C914     | 2306-000122                 | C-FILM,MPPF;100NF,5%,50V,7.3X4    | 4        | CM505    | 2401-002299                 | C-AL;4.7UF,20%,50V,GP,TP,4X7,5           |
| 4        | CM312    | 2306-000122                 | C-FILM,MPPF;100NF,5%,50V,7.3X4    | 4        | C703     | 2401-002463                 | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE |
| 4        | C242     | 2401-000027                 | C-AL;4.7UF,20%,50V,GP,5*11MM,5MEA | 4        | C704     | 2401-002463                 | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE |
| 4        | CM616    | 2401-000302                 | C-AL;100UF,20%,25V,GP,TP,3.5x5,5  | 4        | C710     | 2401-002463                 | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE |
| 4        | CM315    | 2401-000426                 | C-AL;10uF,20%,16V,GP,TP,3.5x5,5   | 4        | CM622    | 2401-002463                 | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE |
| 4        | CM343    | 2401-000426                 | C-AL;10uF,20%,16V,GP,TP,3.5x5,5   | 4        | CM370    | 2401-002594                 | C-AL;220uF,20%,16V,GP,TP,8x11.5,5        |
| 4        | CM345    | 2401-000426                 | C-AL;10uF,20%,16V,GP,TP,3.5x5,5   | 4        | C911     | 2401-002619                 | C-AL;47uF,20%,25V,GP,TP,5x11,5           |
| 4        | CM502    | 2401-000426                 | C-AL;10uF,20%,16V,GP,TP,3.5x5,5   | 4        | CM105    | 2401-002619                 | C-AL;47uF,20%,25V,GP,TP,5x11,5           |
| 4        | CM508    | 2401-000426                 | C-AL;10uF,20%,16V,GP,TP,3.5x5,5   | 4        | C216     | 2401-003102                 | C-AL;100uF,20%,10V,GP,TP,5x11,5          |
| 4        | CM509    | 2401-000426                 | C-AL;10uF,20%,16V,GP,TP,3.5x5,5   | 4        | C235     | 2401-003102                 | C-AL;100uF,20%,10V,GP,TP,5x11,5          |
| 4        | CM521    | 2401-000426                 | C-AL;10uF,20%,16V,GP,TP,3.5x5,5   | 4        | C249     | 2401-003102                 | C-AL;100uF,20%,10V,GP,TP,5x11,5          |
| 4        | CM522    | 2401-000426                 | C-AL;10uF,20%,16V,GP,TP,3.5x5,5   | 4        | C901     | 2401-003102                 | C-AL;100uF,20%,10V,GP,TP,5x11,5          |
| 4        | CM539    | 2401-000426                 | C-AL;10uF,20%,16V,GP,TP,3.5x5,5   | 4        | C907     | 2401-003102                 | C-AL;100uF,20%,10V,GP,TP,5x11,5          |
| 4        | C108     | 2401-000480                 | C-AL;10UF,20%,50V,GP,5X11MM,5M    | 4        | LM101    | 2701-000002                 | INDUCTOR-AXIAL;100UH,10%,4.2X9           |
| 4        | CM101    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | LM302    | 2701-000002                 | INDUCTOR-AXIAL;100UH,10%,4.2X9           |
| 4        | CM316    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | LM304    | 2701-000002                 | INDUCTOR-AXIAL;100UH,10%,4.2X9           |
| 4        | CM334    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | LM305    | 2701-000002                 | INDUCTOR-AXIAL;100UH,10%,4.2X9           |
| 4        | CM340    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | LM307    | 2701-000002                 | INDUCTOR-AXIAL;100UH,10%,4.2X9           |
| 4        | CM342    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | LM601    | 2701-000002                 | INDUCTOR-AXIAL;100UH,10%,4.2X9           |
| 4        | CM346    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | LM602    | 2701-000002                 | INDUCTOR-AXIAL;100UH,10%,4.2X9           |
| 4        | CM347    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | LM301    | 2701-000012                 | INDUCTOR-AXIAL;100UH,10%,2.8X7           |
| 4        | CM348    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | LM306    | 2701-000012                 | INDUCTOR-AXIAL;100UH,10%,2.8X7           |
| 4        | CM349    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | LM502    | 2701-000012                 | INDUCTOR-AXIAL;100UH,10%,2.8X7           |
| 4        | CM358    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | LM503    | 2701-000012                 | INDUCTOR-AXIAL;100UH,10%,2.8X7           |
| 4        | CM359    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | LM504    | 2701-000012                 | INDUCTOR-AXIAL;100UH,10%,2.8X7           |
| 4        | CM360    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | L102     | 2701-000014                 | INDUCTOR-AXIAL;10UH,10%,2.5X3.           |
| 4        | CM506    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | L201     | 2701-000014                 | INDUCTOR-AXIAL;10UH,10%,2.5X3.           |
| 4        | CM518    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | L202     | 2701-000014                 | INDUCTOR-AXIAL;10UH,10%,2.5X3.           |
| 4        | CM336    | 2401-000590                 | C-AL;1UF,20%,50V,GP,3X5MM,5MM,    | 4        | L203     | 2701-000014                 | INDUCTOR-AXIAL;10UH,10%,2.5X3.           |
| 4        | C220     | 2401-000603                 | C-AL;1UF,20%,50V,GP,5X11MM,5MM    | 4        | L601     | 2701-000014                 | INDUCTOR-AXIAL;10UH,10%,2.5X3.           |
| 4        | C711     | 2401-000603                 | C-AL;1UF,20%,50V,GP,5X11MM,5MM    | 4        | L901     | 2701-000014                 | INDUCTOR-AXIAL;10UH,10%,2.5X3.           |
| 4        | C222     | 2401-000660                 | C-ELECTROLYTIC;CE04WTAPG50V2.2    | 4        | L902     | 2701-000014                 | INDUCTOR-AXIAL;10UH,10%,2.5X3.           |
| 4        | C608     | 2401-000660                 | C-ELECTROLYTIC;CE04WTAPG50V2.2    | 4        | L904     | 2701-000014                 | INDUCTOR-AXIAL;10UH,10%,2.5X3.           |
| 4        | C609     | 2401-000660                 | C-ELECTROLYTIC;CE04WTAPG50V2.2    | 4        | LM604    | 2701-000015                 | INDUCTOR-AXIAL;10UH,10%,2.8X7M           |
| 4        | CM533    | 2401-000660                 | C-ELECTROLYTIC;CE04WTAPG50V2.2    | 4        | LM605    | 2701-000015                 | INDUCTOR-AXIAL;10UH,10%,2.8X7M           |
| 4        | CM519    | 2401-000753                 | C-AL;220nF,20%,50V,GP,3x5.5       | 4        | LM501    | 2701-0000123                | INDUCTOR-AXIAL;150uH,10%,2.5X3.4mm       |
| 4        | CM525    | 2401-000758                 | C-AL;220NF,20%,50V,GP,5X11MM,5    | 4        | LM303    | 2702-0000120                | INDUCTOR-RADIAL;15MH,5%,6.2X7.           |
| 4        | C617     | 2401-000914                 | C-AL;22UF,20%,16V,GP,5X11,5TP     | 4        | X7901    | 2801-003433                 | CRYSTAL-UNIT;12MHZ,30PPM,28-AAM,30PF,300 |
| 4        | C246     | 2401-000914                 | C-AL;22UF,20%,16V,GP,5X11,5TP     | 4        | XTM301   | 2801-003610                 | CRYSTAL-UNIT 3.57MHZ                     |
| 4        | CM304    | 2401-000922                 | C-AL;22uF,20%,16V,GP,TP,5x5,5     | 4        | XTM601   | 2801-003750                 | CRYSTAL-UNIT;8MHZ,30PPM,28-AAA,22PF,800H |
| 4        | CM341    | 2401-000922                 | C-AL;22uF,20%,16V,GP,TP,5x5,5     | 4        | T101     | 2903-000135                 | FILTER-CERAMIC;BP,4.5MHZ                 |
| 4        | CM526    | 2401-001026                 | C-AL;3.3UF,20%,50V,GP,5X11MM,5    | 4        | BDM601   | 3301-000287                 | CORE-FERRITEBEAD;AA,3.5X1.0X6.           |
| 4        | CM319    | 2401-001250                 | C-AL;4.7uF,20%,35V,GP,TP,4x5,5    | 4        | SWM701   | 3404-000244                 | SWITCH-TACT;15V,20MA,90-170GF,           |
| 4        | CM611    | 2401-001250                 | C-AL;4.7uF,20%,35V,GP,TP,4x5,5    | 4        | SWM702   | 3404-000244                 | SWITCH-TACT;15V,20MA,90-170GF,           |
| 4        | CM635    | 2401-001250                 | C-AL;4.7uF,20%,35V,GP,TP,4x5,5    | 4        | SWM703   | 3404-000244                 | SWITCH-TACT;15V,20MA,90-170GF,           |
| 4        | CM702    | 2401-001840                 | C-AL;100UF,20%,16V,GP,TP,6.3X1    | 4        | SWM704   | 3404-000244                 | SWITCH-TACT;15V,20MA,90-170GF,           |
| 4        | C103     | 2401-001840                 | C-AL;100UF,20%,16V,GP,TP,6.3X1    | 4        | SWM705   | 3404-000244                 | SWITCH-TACT;15V,20MA,90-170GF,           |
| 4        | C705     | 2401-001840                 | C-AL;100UF,20%,16V,GP,TP,6.3X1    | 4        | SWM706   | 3404-000244                 | SWITCH-TACT;15V,20MA,90-170GF,           |
| 4        | CM543    | 2401-002009                 | C-AL;100UF,20%,16V,GP,TP,6.3X1    | 4        | SWM707   | 3404-000244                 | SWITCH-TACT;15V,20MA,90-170GF,           |
| 4        | CM637    | 2401-002009                 | C-AL;100UF,20%,16V,GP,TP,6.3X1    | 4        | SWM708   | 3404-000244                 | SWITCH-TACT;15V,20MA,90-170GF,           |
| 4        | CM311    | 2401-002069                 | C-AL;33uF,20%,16V,GP,TP,6.3X5     | 4        | SWM709   | 3404-000244                 | SWITCH-TACT;15V,20MA,90-170GF,           |
| 4        | CM507    | 2401-002069                 | C-AL;33uF,20%,16V,GP,TP,6.3X5     | 4        | SWM710   | 3404-000244                 | SWITCH-TACT;15V,20MA,90-170GF,           |
| 4        | CM523    | 2401-002069                 | C-AL;33uF,20%,16V,GP,TP,6.3X5     | 4        | J002     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM524    | 2401-000027                 | C-AL;4.7UF,20%,50V,GP,5*11MM,5MEA | 4        | J003     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM307    | 2401-002144                 | C-AL;47uF,20%,16V,GP,TP,5x11,5    | 4        | J004     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM531    | 2401-002144                 | C-AL;47uF,20%,16V,GP,TP,5x11,5    | 4        | J005     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM536    | 2401-002144                 | C-AL;47uF,20%,16V,GP,TP,5x11,5    | 4        | J006     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | C616     | 2401-002235                 | C-ELECTROLYTIC;CE04W(T)16V10M     | 4        | J007     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | C619     | 2401-002235                 | C-ELECTROLYTIC;CE04W(T)16V10M     | 4        | J008     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | C620     | 2401-002235                 | C-ELECTROLYTIC;CE04W(T)16V10M     | 4        | J009     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | C903     | 2401-002235                 | C-ELECTROLYTIC;CE04W(T)16V10M     | 4        | J010     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | C909     | 2401-002235                 | C-ELECTROLYTIC;CE04W(T)16V10M     | 4        | J011     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM504    | 2401-002235                 | C-ELECTROLYTIC;CE04W(T)16V10M     | 4        | J012     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM534    | 2401-002235                 | C-ELECTROLYTIC;CE04W(T)16V10M     | 4        | J013     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM537    | 2401-002235                 | C-ELECTROLYTIC;CE04W(T)16V10M     | 4        | J014     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM540    | 2401-002235                 | C-ELECTROLYTIC;CE04W(T)16V10M     | 4        | J015     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM102    | 2401-002291                 | C-ELECTROLYTIC;CE04WTAPG16V47M    | 4        | J016     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM108    | 2401-002291                 | C-ELECTROLYTIC;CE04WTAPG16V47M    | 4        | J020     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM302    | 2401-002291                 | C-ELECTROLYTIC;CE04WTAPG16V47M    | 4        | J021     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM338    | 2401-002291                 | C-ELECTROLYTIC;CE04WTAPG16V47M    | 4        | J023     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM353    | 2401-002291                 | C-ELECTROLYTIC;CE04WTAPG16V47M    | 4        | J024     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM356    | 2401-002291                 | C-ELECTROLYTIC;CE04WTAPG16V47M    | 4        | J025     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM365    | 2401-002291                 | C-ELECTROLYTIC;CE04WTAPG16V47M    | 4        | J026     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM516    | 2401-002291                 | C-ELECTROLYTIC;CE04WTAPG16V47M    | 4        | J027     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |
| 4        | CM614    | 2401-002291                 | C-ELECTROLYTIC;CE04WTAPG16V47M    | 4        | J028     | 3812-000219                 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |

| Loc. No. | Code No. | Description ; Specification           | Remark | Loc. No. | Code No. | Description ; Specification                          | Remark |
|----------|----------|---------------------------------------|--------|----------|----------|--|--------|
| 4        | J029     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM064    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J030     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM067    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J031     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM068    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J032     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM069    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J033     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM070    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J034     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM071    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J035     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM072    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J036     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM073    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J037     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM074    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J038     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM075    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J039     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM076    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J040     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM077    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J041     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM078    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J042     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM079    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J043     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM080    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J044     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM081    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | J045     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM082    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM001    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM083    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM002    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM084    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM003    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM085    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM004    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM086    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM005    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM087    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM006    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM088    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM007    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM089    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM008    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM090    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM009    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM091    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM010    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM093    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM011    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM094    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM012    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM095    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM013    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM096    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM014    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM097    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM015    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM098    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM016    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM099    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM017    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM100    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM018    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM101    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM019    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM102    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM020    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM103    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM021    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM104    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM022    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM105    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM023    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM108    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM024    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM109    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM025    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM110    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM026    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM111    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM027    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM112    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM028    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM113    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM029    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM114    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM030    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM116    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM031    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM117    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM032    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM118    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM033    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM120    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM034    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM121    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM036    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM122    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM038    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | JM123    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM039    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | J017     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM040    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | J018     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM041    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | L903     | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A                |        |
| 4        | JM042    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | 00VER    | AA41-00664A PCB-MAIN;21J5,FR-1,1L,A,1.6T,330X245,V18 |        |
| 4        | JM043    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | GT001    | AA60-40014A PIN-GT,ASSY;1P,-,AUTO                    |        |
| 4        | JM044    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | GT002    | AA60-40014A PIN-GT,ASSY;1P,-,AUTO                    |        |
| 4        | JM045    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | GT003    | AA60-40014A PIN-GT,ASSY;1P,-,AUTO                    |        |
| 4        | JM046    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | R102     | 2001-000490 R-CARBON;2000HM,5%,1/8W,AA,TP,           |        |
| 4        | JM047    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | R933     | 2001-000490 R-CARBON;2000HM,5%,1/8W,AA,TP,           |        |
| 4        | JM048    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | RM315    | 2001-000362 R-CARBON;1500HM,5%,1/8W,AA,TP,           |        |
| 4        | JM049    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | R238     | 2001-000938 R-CARBON;68ohm,5%,1/8W,AA,TP,1.8x3.2mm   |        |
| 4        | JM051    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | EY01     | AA60-40011A EYELET;-,ID2.0,OD2.8,-,BST               |        |
| 4        | JM052    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | EY02     | AA60-40011A EYELET;-,ID2.0,OD2.8,-,BST               |        |
| 4        | JM053    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | EY03     | AA60-40011A EYELET;-,ID2.0,OD2.8,-,BST               |        |
| 4        | JM054    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | EY04     | AA60-40011A EYELET;-,ID2.0,OD2.8,-,BST               |        |
| 4        | JM055    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | EY05     | AA60-40011A EYELET;-,ID2.0,OD2.8,-,BST               |        |
| 4        | JM056    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | IC601    | 1204-001465 IC-VOLUME/TONE CONT.;TDA7440D,SOP28,18.  |        |
| 4        | JM057    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | ICM501   | 1204-001754 IC-SIGNAL PROCESSOR;AN3663FBP,QFP,64P,-  |        |
| 4        | JM058    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | ICM301   | 1204-001832 IC-VIDEO PROCESS;LA71201,QFP,80P,-,PLAST |        |
| 4        | JM059    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | ICM601   | AA09-00314A IC MICOM;UPD784927GF-236-3BA,SNM-646MD,1 |        |
| 4        | JM060    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | IC902    | AA09-00242A IC MICOM;TDA9395-OTP,,80,3.3V&8V,12MHZ,  |        |
| 4        | JM061    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | C701     | 2003-001090 R-METALOXIDE;RS2RT(S)I03-J10K            |        |
| 4        | JM062    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 4        | C702     | 2003-001090 R-METALOXIDE;RS2RT(S)I03-J10K            |        |
| 4        | JM063    | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A |        | 3        | C229     | 2309-000138 C-FILM,PE-PPF;100NF,5%,50V,TP,           |        |

## Electric Parts List

| Loc. No.      | Code No.                                 | Description ; Specification              | Remark    | Loc. No.    | Code No.                                 | Description ; Specification              | Remark |
|---------------|--|--|-----------|-------------|--|--|--------|
| 3 C105        | 2401-000039                              | C-ALUMINUM;1000UF,20%,16V,GP,10*16MM,EA  |           | 4 D413      | 0402-000010                              | DIODE-RECTIFIER;RGP15G,400V,1.5A,DO-204A |        |
| 2 A/PWR       | AA94-11152A                              | ASSY PCB POWER;TORNADO,V18A,             |           | 4 D504      | 0402-000132                              | DIODE-RECTIFIER;1N4004,400V,1A,DO-41     |        |
| △ 3 D805      | 0402-000586                              | DIODE-RECTIFIER;RK49,90V,3.5A,DO-201AD   |           | △ 4 D807    | 0402-000132                              | DIODE-RECTIFIER;1N4004,400V,1A,DO-41     |        |
| △ 3 D811      | 0402-000586                              | DIODE-RECTIFIER;RK49,90V,3.5A,DO-201AD   |           | △ 4 D809    | 0402-000132                              | DIODE-RECTIFIER;1N4004,400V,1A,DO-41     |        |
| △ 3 D801S     | 0402-001082                              | DIODEBRIDGE;RBV406LF,600V,4A             |           | △ 4 D812    | 0402-000540                              | DIODE-RECTIFIER;RU20A,600V,1.5           |        |
| 3 D414        | 0402-001296                              | DIODE-RECTIFIER;FMP-3FU,1500V,5A,TO-3PF  |           | 4 D411      | 0402-000540                              | DIODE-RECTIFIER;RU20A,600V,1.5           |        |
| 3 Q401        | 0502-001136                              | TR-POWER;KSD5703,NPN,70W,TO-3PF,ST-8     |           | 4 D301      | 0402-000546                              | DIODE-RECTIFIER;TVR10G,400V,1.           |        |
| △ 3 PC801S    | 0604-001038                              | PHOTOCOUPLER;TR,130-260V,200MW           |           | 4 D501      | 0402-000546                              | DIODE-RECTIFIER;TVR10G,400V,1.           |        |
| △ 3 PT801S    | 1404-001246                              | THERMISTOR-PTC;1.50HM,+30/-20,110V,140VA |           | 4 D502      | 0402-000546                              | DIODE-RECTIFIER;TVR10G,400V,1.           |        |
| △ 3 CY801S    | 2201-000446                              | C-CERAMIC,AC,CK45PE400V332-M/T           |           | 4 D503      | 0402-000546                              | DIODE-RECTIFIER;TVR10G,400V,1.           |        |
| △ 3 CY802S    | 2201-000446                              | C-CERAMIC,AC,CK45PE400V332-M/T           |           | △ 4 D801    | 0402-000546                              | DIODE-RECTIFIER;TVR10G,400V,1.           |        |
| △ 3 CR405S    | 2306-000195                              | C-FILM,MPPF;360NF,5%,400V,26.0           |           | △ 4 D803    | 0402-000546                              | DIODE-RECTIFIER;TVR10G,400V,1.           |        |
| △ 3 CR401S    | 2306-000267                              | C-FILM;8.2nF,5%,1.6kV,TP28.5x18.5x12     |           | △ 4 D804    | 0402-000546                              | DIODE-RECTIFIER;TVR10G,400V,1.           |        |
| △ 3 CX801S    | 2306-000318                              | C-ELECTROLYTIC;CE04W200V470M(2           |           | △ 4 DR01S   | 0402-000546                              | DIODE-RECTIFIER;TVR10G,400V,1.           |        |
| 3 C806        | 2401-002251                              | C-FILM,MPPF;220NF,200V,,250V,,2          |           | 4 DZ808     | 0403-000510                              | DIODE-ZENER;MTZJ6.2B,6.2V,5.96-6.27V,500 |        |
| △ 3 RL801S    | 3501-001040                              | RELAYPOWER;12VDC,500mA,10A,1FO           |           | 4 DZ814     | 0403-000510                              | DIODE-ZENER;MTZJ6.2B,6.2V,5.96-6.27V,500 |        |
| △ 3 FP801S    | 3601-001012                              | FUSE-FERRULE;250V,4A,SLOW-BLOW           |           | 4 DZ807     | 0403-000700                              | DIODE-ZENER;TZP33A,33V,31-35V,           |        |
| △ 3 V999S     | 3704-001105                              | SOCKET-CRT;11P,20P,26.5P,NI,-            |           | 4 DZ802     | 0403-000716                              | DIODE-ZENER;MTZJ4.7B,4.7V,4.55-4.8V,500m |        |
| 3 CN401       | 3711-003975                              | CONNECTOR-HEADER;BOX,14P,1R,2.5mm,STRAIG |           | 4 DZ306     | 0403-001167                              | DIODE-ZENER;MTZJ3D,30V,29.02-30.51V,500  |        |
| 3 CN802       | 3711-003975                              | CONNECTOR-HEADER;BOX,14P,1R,2.5mm,STRAIG |           | 4 DZ801     | 0403-001211                              | DIODE-ZENER;MTZJ12B,11.44-12.03V,500mW,D |        |
| △ 3 T444S     | AA26-00167A                              | TRANS FBT;FOH-29A001(S),CT29D4,3.5MH,130 |           | 4 DZ305     | 0403-001221                              | DIODE-ZENER;UZ39BSB,35.36-37.19V,500mW,D |        |
| △ 3 T801S     | AA26-00183A                              | TRANS SWITCHING;EER4245,V18A,90,-264,PM5 |           | 4 DZ806     | 0403-001318                              | DIODE-ZENER;MTZJ4.3B,4.17-4.43V,500mW,DO |        |
| △ 3 T401      | AA26-50001M                              | HORIZ DRIVE;-,80MH,520UH,4UH,E           |           | 4 DZ805     | 0403-001322                              | DIODE-ZENER;MTZJ8.2B,7.78-8.19V,500mW,DO |        |
| 3 L405        | AA27-00025A                              | COIL-CHOKE;-,1MH,10%,-,BK,-,12X20,14X2   |           | 4 DZ804     | 0403-001327                              | DIODE-ZENER;MTZJ18A,16.22-17.06V,500mW,D |        |
| △ 3 LR401S    | AA27-30003L                              | COIL LINEARITY;-,73UH,DR,12X15,0.55MM,BK |           | 4 DZ302     | 0403-001329                              | DIODE-ZENER;MTZJ24B,22.61-23.77V,500mW,  |        |
| △ 3 LX801S    | AA29-30002N                              | FILTER-LINE NOISE;-,16MH,1.5A,AC100-260V |           | 4 DZ303     | 0403-001329                              | DIODE-ZENER;MTZJ24B,22.61-23.77V,500mW,  |        |
| 3 CN601       | AA39-00070A                              | LEAD CONNECTOR-ASSY;4P,200mm,YBNH250-04, |           | 4 DZ304     | 0403-001329                              | DIODE-ZENER;MTZJ24B,22.61-23.77V,500mW,  |        |
| 3 CN501       | AA39-00070A                              | LEAD-CONNECTOR;ASSY,9P,YBNH250-09,S,400m |           | 4 DZ803     | 0403-001330                              | DIODE-ZENER;MTZJ30A,26.99-28.39V,500mW,D |        |
| 3 Q403        | AA96-00243F                              | ASSY H/S;-,VERTICAL,AA62-00045A,IRF620,V |           | △ 4 D836    | 0404-000156                              | DIODE-SCHOTTKY;BK441Q,10V,100MA,DO-34,TP |        |
| 4 0205-000129 | GREASE-SILICON;SC102,JAPAN               |  | △ 4 D808  | 0404-001056 | DIODE-SCHOTTKY;RK16,60V,1.5A,DO-204AC,TP |  |        |
| 4 0505-000156 | FET-SILICON;IRF620,N,200V,5A,0.8ohm,50W, |  | △ 4 D810  | 0404-001056 | DIODE-SCHOTTKY;RK16,60V,1.5A,DO-204AC,TP |  |        |
| 4 6003-000335 | SCREW-TAPITTE;RH,+,2S,M3,L8,ZPC(YEL),SWR |  | △ 4 QR01S | 0501-000283 | TRANSISTOR;KSA539-Y(TAPG)/YTAM           |  |        |
| 4 AA62-00045A | HEAT SINK-PS;-,T1.0,-,DREAM,-,-,         |  | 4 Q402    | 0501-000369 | TRANSISTOR;KSC231-Y(TAPG)                |  |        |
| 3 Q805        | AA96-00243G                              | ASSY H/S;-,POWER,AA62-00045A,C2073-H2,V1 |           | 4 Q802      | 0501-000389                              | TRANSISTOR;KSC815-Y(TAPG)/YTAM           |        |
| 3 Q810        | AA96-00243G                              | ASSY H/S;-,POWER,AA62-00045A,C2073-H2,V1 |           | 4 Q601      | 0501-000398                              | TR-SMALLSIGNAL;KSC945,NPN,60V,           |        |
| 4 0205-000129 | GREASE-SILICON;SC102,JAPAN               |  | 4 Q811    | 0501-000398 | TR-SMALLSIGNAL;KSC945,NPN,60V,           |  |        |
| 4 0502-001007 | TR-POWER;KSC2073-H2,NPN,150V,1           |  | 4 Q602    | 0504-000142 | TR-DIGITAL;KSR2001,PNP,300mW,4           |  |        |
| 4 6003-000335 | SCREW-TAPITTE;RH,+,2S,M3,L8,ZPC(YEL),SWR |  | 4 Q812    | 0504-000142 | TR-DIGITAL;KSR2001,PNP,300mW,4           |  |        |
| 4 AA62-00045A | HEAT SINK-PS;-,T1.0,-,DREAM,-,-,         |  | 4 Q803    | 1203-001217 | IC-POST,ADJUSTREG;431,T0-92,3P,4.58MIL,P |  |        |
| 3 Q804        | AA96-00243H                              | ASSY H/S;-,POWER,AA62-00045A,KSD73Y,C17A |           | △ 4 VP0801S | 1405-000152                              | VARISTOR;560V,2500A,14X8.5MM,T           |        |
| 4 0205-000129 | GREASE-SILICON;SC102,JAPAN               |  | 4 R303    | 2001-000016 | R-CARBON(S);10HM,5%,1/2W,AA,TP           |  |        |
| 4 0502-000298 | TR-POWER;KSD73,NPN,100V,60V,5A           |  | 4 R813    | 2001-000019 | R-CARBON(S);10ohm,5%,1/2W,AA,TP,2.4x6.4m |  |        |
| 4 6003-000335 | SCREW-TAPITTE;RH,+,2S,M3,L8,ZPC(YEL),SWR |  | 4 R412    | 2001-000020 | R-CARBON(S);220HM,5%,1/2W,AA,T           |  |        |
| 4 AA62-00045A | HEAT SINK-PS;-,T1.0,-,DREAM,-,-,         |  | 4 R837    | 2001-000020 | R-CARBON(S);220HM,5%,1/2W,AA,T           |  |        |
| 3 IC601       | AA96-00244B                              | ASSY H/S;-,AA62-00046A,TDA7266S,-        |           | 4 R409      | 2001-000020                              | R-CARBON(S);220HM,5%,1/2W,AA,T           |        |
| 4 0205-000129 | GREASE-SILICON;SC102,JAPAN               |  | 4 R850    | 2001-000028 | R-CARBON(S);1000HM,5%,1/2W,AB,           |  |        |
| 4 1201-001308 | IC-POWERAMP;T266,2IP,15P,-,DUAL,26dB,PL  |  | 4 R407    | 2001-000028 | R-CARBON(S);1000HM,5%,1/2W,AB,           |  |        |
| 4 6003-000335 | SCREW-TAPITTE;RH,+,2S,M3,L8,ZPC(YEL),SWR |  | 4 R847    | 2001-000037 | R-CARBON(S);330OHM,5%,1/2W,AA,           |  |        |
| 4 AA62-00046A | HEAT SINK-PS;-,T1.0,-,D1(DREAM) 60X25X   |  | 4 R511    | 2001-001062 | R-CARBON(S);10MOHM,5%,1/2W,AA,           |  |        |
| 3 IC301       | AA96-00244F                              | ASSY H/S;-,VERTICAL,AA62-00046A,LA7841,  |           | 4 R810      | 2001-001009                              | R-CARBON(S);4700HM,5%,1/2W,AA,           |        |
| 4 0205-000129 | GREASE-SILICON;SC102,JAPAN               |  | 4 R842    | 2001-000109 | R-CARBON(S);4700HM,5%,1/2W,AA,           |  |        |
| 4 1204-001807 | IC-VERTICAL PROCESSO;LA7841,SIP,7P,708MI |  | 4 R624    | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP           |  |        |
| 4 6003-000335 | SCREW-TAPITTE;RH,+,2S,M3,L8,ZPC(YEL),SWR |  | 4 R620    | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP            |  |        |
| 4 AA62-00046A | HEAT SINK-PS;-,T1.0,-,D1(DREAM) 60X25X   |  | 4 R623    | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |  |        |
| 3 IC801S      | AA96-00662C                              | ASSY H/S;AA62-30171J,5Q12656RT,OIL SILI  |           | 4 R820      | 2001-000281                              | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 CIS         | 0205-001027                              | OIL-SILICON;G746                         |           | 4 R621      | 2001-000290                              | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 4 CIS         | 1203-002257                              | IC-PWM CONTROLLER;5Q12656RT,TO-220F-5L,  |           | 4 R622      | 2001-000429                              | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm   |        |
| 4 CIS         | 6003-000333                              | SCREW-TAPITTE;RH,+,2S,M3,L10,ZPC(YEL),SW |           | 4 R833      | 2001-000429                              | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm   |        |
| 4 CIS         | AA62-30171J                              | HEAT SINK-ES;-,-,SILVER,-,DREAM,-,-,     |           | 4 R417      | 2001-000449                              | R-CARBON;2.2KOHM,5%,1/8W,AA,TP           |        |
| 3 IC501       | AA96-50311E                              | ASSY H/S;-,AA62-30175D,TDA6108Q,-        |           | 4 R829      | 2001-000577                              | R-CARBON;2KOHM,5%,1/8W,AA,TP,1           |        |
| 4 1201-001330 | IC-VIDEO;TDA6108J,ZSIP9,SINGLE,-         |  | 4 R849    | 2001-000734 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP           |  |        |
| 4 6003-000334 | SCREW-TAPITTE;RH,+,2S,M3,L6,ZP           |  | 4 R625    | 2001-000780 | R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm  |  |        |
| 4 AA62-30175D | HEATSINK-PS;-,SECC,T1.0,-,33X15X30FT-2   |  | 4 R814    | 2001-000800 | R-CARBON;5.1KOHM,5%,1/8W,AA,TP           |  |        |
| 3 NT801S      | 1404-001045                              | THERMISTOR NTC,4.70HM,15%,2900K,35.0MW,T |           | 4 R834      | 2001-000812                              | R-CARBON;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2mm |        |
| 3 A/AUTO      | AA97-12100A                              | ASSY AUTO;CFD2083XT/SMS,V18A             |           | 4 R404      | 2001-001074                              | R-CARBON(S);130OHM,5%,1/2W,AA,TP,2.4X6.4 |        |
| 4 D403        | 0401-000005                              | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |           | 4 R402      | 2001-001078                              | R-CARBON(S);15KOHM,5%,1/2W,AA,           |        |
| 4 D405        | 0401-000005                              | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |           | 4 R406      | 2001-001078                              | R-CARBON(S);15KOHM,5%,1/2W,AA,           |        |
| 4 D406        | 0401-000005                              | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |           | 4 R421      | 2001-001088                              | R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4  |        |
| 4 D412        | 0401-000005                              | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |           | 4 R816      | 2001-001088                              | R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4  |        |
| 4 D601        | 0401-000005                              | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |           | 4 R817      | 2001-001088                              | R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4  |        |
| 4 D602        | 0401-000005                              | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |           | 4 R504      | 2001-001102                              | R-CARBON(S);2000HM,5%,1/2W,AA,           |        |
| 4 D833        | 0401-000005                              | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |           | 4 R505      | 2001-001102                              | R-CARBON(S);2000HM,5%,1/2W,AA,           |        |
| 4 D834        | 0401-000005                              | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |           | 4 R506      | 2001-001102                              | R-CARBON(S);2000HM,5%,1/2W,AA,           |        |
| 4 D835        | 0401-000005                              | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |           | △ 4 RR03S   | 2001-001103                              | R-CARBON(S);20KOHM,5%,1/2W,AA,TP,2.4X6.4 |        |
| 4 D848        | 0401-000005                              | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |           | 4 R410      | 2001-001114                              | R-CARBON(S);2700HM,5%,1/2W,AA,           |        |
| 4 D401        | 0402-000010                              | DIODE-RECTIFIER;RGP15G,400V,1.5A,DO-204A |           | 4 R818      | 2001-001131                              | R-CARBON(S);33KOHM,5%,1/2W,AA,           |        |

| Loc. No.   | Code No.    | Description ; Specification              | Remark | Loc. No.   | Code No.    | Description ; Specification              | Remark |
|------------|-------------|--|--------|------------|-------------|--|--------|
| 4 R411     | 2001-001139 | R-CARBON(S);39KOHM,5%,1/2W,AA,           |        | 4 C818     | 2401-000142 | C-AL;1000UF,20%,16V,WT,10X20MM           |        |
| 4 R811     | 2001-001139 | R-CARBON(S);39KOHM,5%,1/2W,AA,           |        | 4 C813     | 2401-000287 | C-AL;100UF,20%,16V,WT,6X11MM,5           |        |
| 4 R825     | 2001-001146 | R-CARBON(S);4.70HM,5%,1/2W,AA,           |        | 4 C809     | 2401-000287 | C-AL;100UF,20%,16V,WT,6X11MM,5           |        |
| 4 R826     | 2001-001146 | R-CARBON(S);4.70HM,5%,1/2W,AA,           |        | 4 C816     | 2401-000293 | C-ELECTROLYTIC;CE04WTAPG200V10           |        |
| 4 R403     | 2001-001155 | R-CARBON(S);5.6Kohm,5%,1/2W,AA,TP2.4x6.  |        | 4 C302     | 2401-000360 | C-AL;100UF,20%,50V,GP,8X11MM,5           |        |
| 4 R408     | 2001-001155 | R-CARBON(S);5.6Kohm,5%,1/2W,AA,TP2.4x6.  |        | 4 C307     | 2401-000360 | C-AL;100UF,20%,50V,GP,8X11MM,5           |        |
| 4 R807     | 2001-001192 | R-CARBON(S);8200HM,5%,1/2W,AB,           |        | 4 C505     | 2401-000430 | C-ELECTROLYTIC;CE04WTAPG250V10           |        |
| △ 4 RP801S | 2002-001010 | R-COMPOSITION;1.8MOHM,5%,1/2W,AA,TP,3.7X |        | 4 C506     | 2401-000430 | C-ELECTROLYTIC;CE04WTAPG250V10           |        |
| △ 4 RX801S | 2002-001011 | R-COMPOSITION;3.3Mohm,10%,1/2W,AA,TP,3.7 |        | 4 C406     | 2401-000480 | C-AL;10UF,20%,50V,GP,5X11MM,5M           |        |
| 4 R512     | 2002-001012 | R-COMPOSITION;8.2MOhm,5%,1/2W,AA,TP,3.7X |        | △ 4 CR02S  | 2401-000480 | C-AL;10UF,20%,50V,GP,5X11MM,5M           |        |
| △ 4 RY801S | 2002-001013 | R-COMPOSITION;4.7MOhm,5%,1/2W,AA,TP,3.7X |        | 4 C848     | 2401-000689 | C-AL;2200UF,20%,16V,GP,13X25MM           |        |
| 4 R507     | 2002-001017 | R-COMPOSITION;1K,10%,1/2W,AA,TP,3.7x9.0m |        | 4 C422     | 2401-000927 | C-AL;22UF,20%,250V,GP,13X20MM,           |        |
| 4 R508     | 2002-001017 | R-COMPOSITION;1K,10%,1/2W,AA,TP,3.7x9.0m |        | 4 C808     | 2401-001192 | C-AL;33UF,20%,50V,GP,6X11MM,5MM,TP       |        |
| 4 R509     | 2002-001017 | R-COMPOSITION;1K,10%,1/2W,AA,TP,3.7x9.0m |        | 4 C421     | 2401-001232 | C-AL;4.7UF,20%,250V,GP,10X12.5           |        |
| 4 R413     | 2003-000540 | R-METALOXIDE(S);1KOHM,5%,2W,AD           |        | 4 C402     | 2401-001397 | C-AL;470UF,20%,25V,GP,10X16MM,           |        |
| 4 R802     | 2003-000586 | R-METALOXIDE(S);22KOHM,5%,2W,A           |        | 4 C404     | 2401-001397 | C-AL;470UF,20%,25V,GP,10X16MM,           |        |
| 4 R803     | 2003-000586 | R-METALOXIDE(S);22KOHM,5%,2W,A           |        | 4 C802     | 2401-001496 | C-AL;47UF,20%,16V,GP,5X7MM,5MM           |        |
| 4 R510     | 2003-002007 | R-METAL OXIDE(S);4.7KOHM,5%,2W,AF,TP,3.9 |        | 4 C812     | 2401-001840 | C-AL;100UF,20%,16V,GP,TP,6.3X1           |        |
| 4 R436     | 2003-002151 | R-METALOXIDE;18KOHM,5%,2W,AG,TP,6X16     |        | 4 C609     | 2401-001914 | C-AL;1uF,20%,50V,BP,TP,5x11,5            |        |
| 4 R306     | 2003-002157 | R-METAL OXIDE;2200HM,5%,2W,AG,TP,6X16MM  |        | 4 C611     | 2401-001914 | C-AL;1uF,20%,50V,BP,TP,5x11,5            |        |
| 4 R426     | 2003-002178 | R-METAL OXIDE(S) 1Kohm,5%,2W,AG,TP,3.9X1 |        | 4 C620     | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5           |        |
| 4 R315     | 2004-001126 | R-METAL;6.2Kohm,1%,1/8W,AA,TP,1.8x3.2m   |        | 4 C605     | 2401-002235 | C-ELECTROLYTIC;CE04W(T)16V10M            |        |
| 4 R432     | 2001-001194 | R-CARBON(S);82KOHM,5%,1/2W,AA,           |        | △ 4 CR03S  | 2401-002235 | C-ELECTROLYTIC;CE04W(T)16V10M            |        |
| △ 4 RR07S  | 2004-001382 | R-METAL(S);13KOHM,1%,1/2W,AA,TP,2.4X6.4M |        | 4 C427     | 2401-002267 | C-AL;2.2UF,20%,250V,GP,8X12MM,           |        |
| △ 4 RR04S  | 2004-001402 | R-METAL(S);6.8KOHM,1%,1/2W,AA,           |        | 4 C803     | 2401-002300 | C-ELECTROLYTIC;CE04WTAPG50V47U           |        |
| 4 R429     | 2004-001403 | R-METAL(S);7.5Kohm,1%,1/2W,AA,TP,2.4x6.4 |        | 4 C839     | 2401-002463 | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE |        |
| 4 R821     | 2004-001889 | R-METAL(S);127KOHM,1%,1/2W,AA,TP,2.5X6.5 |        | 4 C819     | 2401-002463 | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE |        |
| 4 R301     | 2004-001983 | R-METAL;2.49KOHM,1%,1/2W,AA,TP,2.4X6.4   |        | 4 C805     | 2401-002463 | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE |        |
| 4 R819     | 2004-001983 | R-METAL;2.49KOHM,1%,1/2W,AA,TP,2.4X6.4   |        | 4 C826     | 2401-002463 | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE |        |
| 4 R302     | 2004-001984 | R-METAL;26.7KOHM,1%,1/2W,AA,TP           |        | 4 C830     | 2401-002463 | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE |        |
| 4 R314     | 2004-001986 | R-METAL;35.7KOHM,1%,1/2W,AA,TP           |        | 4 C847     | 2401-002463 | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE |        |
| △ 4 RR06S  | 2004-004029 | R-METAL(S);10Kohm,1%,1/2W,AA,TP,2.5x6.5m |        | 4 C414     | 2401-002619 | C-AL;47uF,20%,25V,GP,TP,5x11,5           |        |
| △ 4 RR02S  | 2004-004029 | R-METAL(S);10Kohm,1%,1/2W,AA,TP,2.5x6.5m |        | 4 C621     | 2401-003034 | C-AL;220UF,20%,16V,WT,TP,8X11.           |        |
| 4 R424     | 2008-000253 | R-FUSIBLE(S);0.470HM,5%,1W,AF            |        | 4 C815     | 2401-003058 | C-AL;100UF,20%,200V,WT,16X25MM           |        |
| 4 R425     | 2008-000253 | R-FUSIBLE(S);0.470HM,5%,1W,AF            |        | 4 L501     | 2701-000002 | INDUCTOR-AXIAL;100UH,10%,4.2X9           |        |
| 4 R435     | 2008-000253 | R-FUSIBLE(S);0.470HM,5%,1W,AF            |        | 4 L806     | 2701-000002 | INDUCTOR-AXIAL;100UH,10%,4.2X9           |        |
| 4 R513     | 2008-001013 | R-FUSIBLE(S);1.2ohm,5%,2W,AF,TP,3.9x10mm |        | 4 L308     | 2701-000114 | INDUCTOR-AXIAL;10UH,10%,2.5X3.           |        |
| 4 R304     | 2008-001029 | R-FUSIBLE(S);5.60HM,5%,2W,AF,T           |        | 4 L309     | 2701-000114 | INDUCTOR-AXIAL;10UH,10%,2.5X3.           |        |
| 4 R305     | 2008-001029 | R-FUSIBLE(S);5.60HM,5%,2W,AF,T           |        | 4 L805     | 2701-000115 | INDUCTOR-AXIAL;10UH,10%,2.8X7M           |        |
| 4 R824     | 2008-001058 | R-FUSIBLE(S);0.180HM,10%,1W,AF           |        | 4 L808     | 2701-000107 | INDUCTOR-AXIAL;24uH,10%,4.5x14mm         |        |
| 4 R405     | 2008-001135 | R-FUSIBLE(S);3.9ohm,5%,1W,AF,TP,3.9x10mm |        | 4 L804     | 2901-00297  | FILTER-EMI ON BOARD;~3A,~3.5x5,TP,-      |        |
| 4 C424     | 2201-000132 | C-CERAMIC,DISC;100PF,10%,500V,Y5P,6X3MM, |        | 4 L302     | 3301-000287 | CORE-FERRITEBEAD;AA,3.5X1.0X6.           |        |
| 4 C804     | 2201-000332 | C-CERAMIC,AC;CK45PTAPGE250V222           |        | 4 L304     | 3301-000287 | CORE-FERRITEBEAD;AA,3.5X1.0X6.           |        |
| 4 C810     | 2201-000332 | C-CERAMIC,AC;CK45PTAPGE250V222           |        | 4 L305     | 3301-000287 | CORE-FERRITEBEAD;AA,3.5X1.0X6.           |        |
| 4 C843     | 2201-000374 | C-CERAMIC,DISC;220pF,5%,50V,CH,TP,12.5x3 |        | 4 L801     | 3301-000287 | CORE-FERRITEBEAD;AA,3.5X1.0X6.           |        |
| 4 C817     | 2201-000599 | C-CERAMIC,DISC;560PF,10%,500V,           |        | 4 L809     | 3301-000287 | CORE-FERRITEBEAD;AA,3.5X1.0X6.           |        |
| 4 C820     | 2201-000599 | C-CERAMIC,DISC;560PF,10%,500V,           |        | △ 4 FA801S | 3601-001086 | FUSE-AXIAL LEAD;125V,5A,FAST-ACTING,GLAS |        |
| 4 C824     | 2201-000599 | C-CERAMIC,DISC;560PF,10%,500V,           |        | 4 F801A    | 3602-000114 | FUSE-HOLDER;~,30MOHM                     |        |
| 4 C828     | 2201-000599 | C-CERAMIC,DISC;560PF,10%,500V,           |        | 4 F801B    | 3602-000114 | FUSE-HOLDER;~,30MOHM                     |        |
| 4 C407     | 2201-000639 | C-CERAMIC,DISC;680PF,10%,2KV,Y5P,-5MM,T  |        | 4 J301     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C814     | 2201-000639 | C-CERAMIC,DISC;680PF,10%,2KV,Y5P,-5MM,T  |        | 4 J302     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C504     | 2201-000723 | C-CERAMIC,DISC;4.7nF,20%,3KV,Y5U,TP,16x5 |        | 4 J401     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C303     | 2201-002022 | C-CERAMIC,DISC;5PF,0.25PF,500V           |        | 4 J402     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C301     | 2301-000192 | C-FILM,PEF;1NF,5%,50V,5.3X10MM           |        | 4 J403     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C309     | 2301-000192 | C-FILM,PEF;1NF,5%,50V,5.3X10MM           |        | 4 J404     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C411     | 2301-000192 | C-FILM,PEF;1NF,5%,50V,5.3X10MM           |        | 4 J405     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C821     | 2301-000224 | C-FILM,PEF;22NF,5%,50V,7.4X3.9           |        | 4 J408     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C840     | 2301-000224 | C-FILM,PEF;22NF,5%,50V,7.4X3.9           |        | 4 J501     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C811     | 2301-000232 | C-FILM,PEF;3.3NF,5%,50V,8.1X4.           |        | 4 J502     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C305     | 2301-000261 | C-FILM,PEF;4.7NF,5%,100V,10.5X           |        | 4 J601     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C306     | 2301-000342 | C-FILM,PEF;2.2nf,5%,50V,TP,7.4x3.9x13mm, |        | 4 J602     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C608     | 2301-000356 | C-FILM,PEF;47nf,5%,50V,TP,7.5x4.0x6.5,5m |        | 4 J603     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C610     | 2301-000356 | C-FILM,PEF;47nf,5%,50V,TP,7.5x4.0x6.5,5m |        | 4 J604     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C807     | 2301-001397 | C-FILM,PPF;2.2nf,5%,1.2KV,TP,15x8.5x13.5 |        | 4 J605     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| △ 4 CR403S | 2303-001001 | C-FILM,PPF;22nf,5%,630V,TP,18x14.5x8.5mm |        | 4 J607     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C308     | 2305-000149 | C-FILM;CF92ZN100VT104-J-40/105           |        | 4 J801     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C412     | 2305-000178 | C-FILM,MPEF;10NF,5%,100V,-,5MM           |        | 4 J802     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C304     | 2305-000285 | C-FILM,MPEF;220NF,5%,100V,-,5M           |        | 4 J803     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C408     | 2305-000382 | C-FILM,MPEF;4.7NF,5%,400V,TP,-,5MM.      |        | 4 J804     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C801     | 2305-000665 | C-FILM;104J, 60V,5MM TAPING              |        | 4 J805     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C841     | 2305-000665 | C-FILM;104J, 60V,5MM TAPING              |        | 4 J806     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C507     | 2305-000704 | C-M,POLYESTER;CFS922MTAPG250V1           |        | 4 J807     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C508     | 2305-000704 | C-M,POLYESTER;CFS922MTAPG250V1           |        | 4 J808     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C420     | 2306-000224 | C-FILM,MPPF;47nf,5%,400V,TP,19x15.5x7.7. |        | 4 J809     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C604     | 2401-000133 | C-AL;1000uF,20%,16V,GP,TP,10x20.5        |        | 4 J810     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C829     | 2401-000133 | C-AL;1000uF,20%,16V,GP,TP,10x20.5        |        | 4 L802     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |
| 4 C822     | 2401-000142 | C-AL;1000uF,20%,16V,WT,10X20MM           |        | 4 R501     | 3812-000219 | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        |

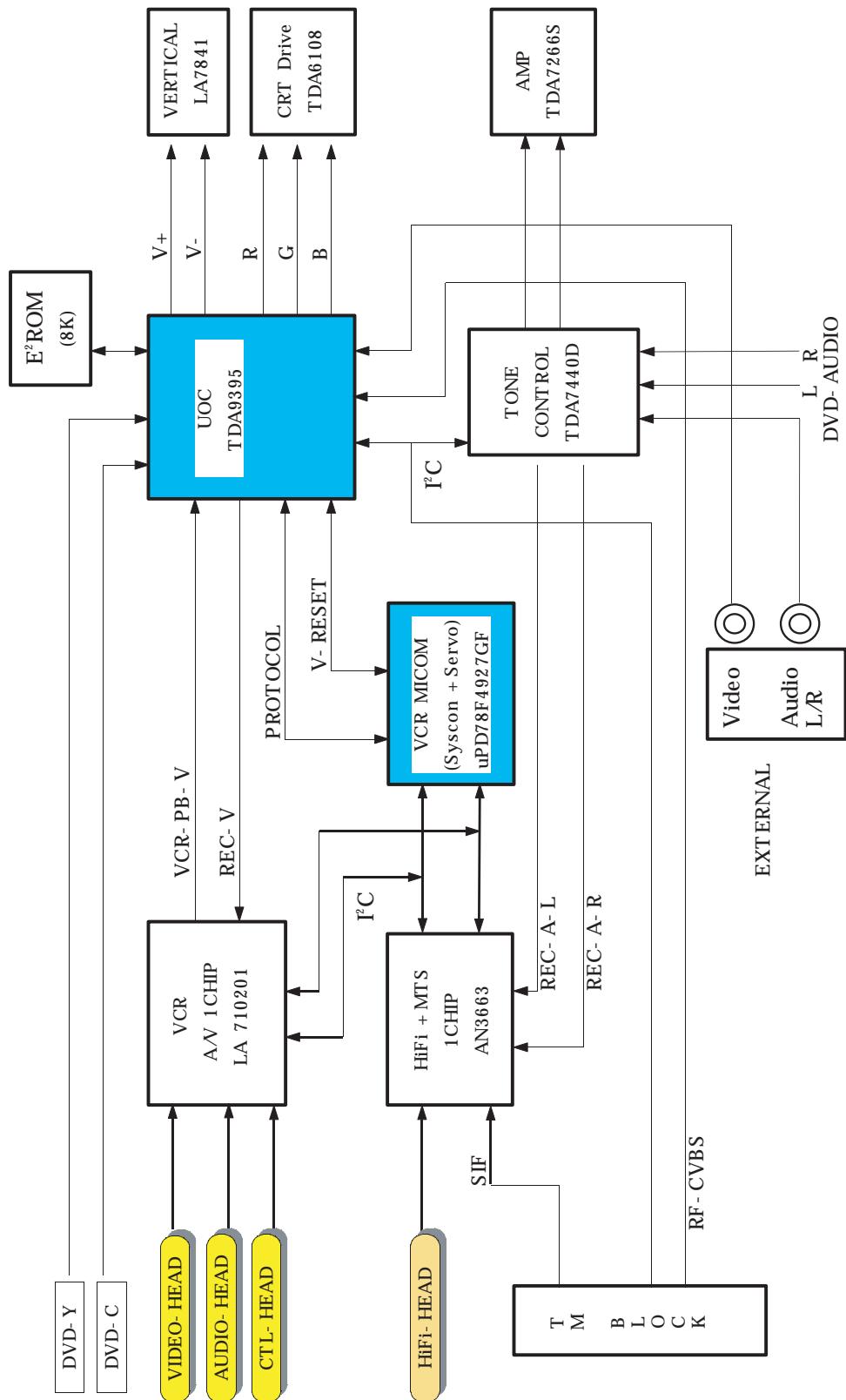
| Loc. No.      | Code No.                                 | Description ; Specification              | Remark | Loc. No. | Code No.    | Description ; Specification              | Remark |
|---------------|--|--|--------|----------|-------------|--|--------|
| 4 R502        | 3812-000219                              | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        | 3 DD101  | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        |
| 4 R503        | 3812-000219                              | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        | 3 DD104  | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        |
| △ 4 L401      | 3812-000219                              | JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M/A    |        | 3 DD505  | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        |
| 4 OOVER       | AA41-00666A                              | PCB-POWER CRT;21J5.FR-1,1L,A,1.6T,245X24 |        | 3 DD506  | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        |
| 4 EY01        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 DD507  | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        |
| 4 EY02        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 DD508  | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        |
| 4 EY03        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 DD602  | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        |
| 4 EY04        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 DD603  | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        |
| 4 EY05        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 DD604  | 0401-000005 | DIODE;1N4148,100V,300mA,1V,8nS,TAPING    |        |
| 4 EY06        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 ZDD102 | 0403-000508 | DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500 |        |
| 4 EY07        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 ZDD104 | 0403-000508 | DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500 |        |
| 4 EY08        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 ZDD103 | 0403-000714 | DIODE-ZENER;MTZJ3.3B,3.3V,3.32-3.53V,500 |        |
| 4 EY10        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 ZDD101 | 0403-001211 | DIODE-ZENER;MTZJ12B,11.44-12.03V,500MW,D |        |
| 4 EY11        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 DD102  | 0404-000156 | DIODE-SCHOTTKY;RB4410,10V,100MA,DO-34,TP |        |
| 4 EY12        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 DD103  | 0404-000156 | DIODE-SCHOTTKY;RB4410,10V,100MA,DO-34,TP |        |
| 4 EY13        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD301  | 0501-000283 | TRANSISTOR;KSA539-Y(TAGP)/YTAM           |        |
| 4 EY14        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD302  | 0501-000283 | TRANSISTOR;KSA539-Y(TAGP)/YTAM           |        |
| 4 EY15        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD303  | 0501-000283 | TRANSISTOR;KSA539-Y(TAGP)/YTAM           |        |
| 4 EY16        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD603  | 0501-000283 | TRANSISTOR;KSA539-Y(TAGP)/YTAM           |        |
| 4 EY17        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD101  | 0501-000362 | TRANSISTOR;KSC2328A-Y/ZSC2655-           |        |
| 4 EY19        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD102  | 0501-000362 | TRANSISTOR;KSC2328A-Y/ZSC2655-           |        |
| 4 EY20        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD103  | 0501-000362 | TRANSISTOR;KSC2328A-Y/ZSC2655-           |        |
| 4 EY21        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD108  | 0501-000362 | TRANSISTOR;KSC2328A-Y/ZSC2655-           |        |
| 4 EY22        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD109  | 0501-000362 | TRANSISTOR;KSC2328A-Y/ZSC2655-           |        |
| 4 EY23        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD501  | 0501-000398 | TR-SMALLSIGNAL;KSC945,NPN,60V,           |        |
| 4 EY24        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD502  | 0501-000398 | TR-SMALLSIGNAL;KSC945,NPN,60V,           |        |
| 4 EY25        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD105  | 0504-000119 | TR-DIGITAL;KSR1004,NPN,300MW,4           |        |
| 4 EY26        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD107  | 0504-000119 | TR-DIGITAL;KSR1004,NPN,300MW,4           |        |
| 4 EY27        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD104  | 0504-000142 | TR-DIGITAL;KSR2001,PNP,300MW,4           |        |
| 4 EY28        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 QD106  | 0504-000142 | TR-DIGITAL;KSR2001,PNP,300MW,4           |        |
| 4 EY29        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 ICD602 | 1203-001274 | IC-VOL.DETECTOR;7545,TO-92,3P,,PLASTIC   |        |
| 4 EY30        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD639  | 2001-000010 | R-CARBON;68Kohm,5%,1/8W,AA,TP,1.8x3.2mm  |        |
| 4 EY33        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD304  | 2001-000109 | R-CARBON(S);4700HM,5%,1/2W,AA,           |        |
| 4 EY34        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD305  | 2001-000109 | R-CARBON(S);4700HM,5%,1/2W,AA,           |        |
| 4 EY35        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD306  | 2001-000109 | R-CARBON(S);4700HM,5%,1/2W,AA,           |        |
| 4 EY36        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD701  | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP           |        |
| 4 EY18        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD703  | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP           |        |
| 4 EY37        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD504  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EY38        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD505  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EY39        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD506  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EY40        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD507  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EY41        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD602  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EY42        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD603  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EY43        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD604  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EY44        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD605  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EY45        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD606  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EY46        | AA60-40011A                              | EYELET-;ID2.0,OD2.8,-,BST                |        | 3 RD607  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EL01        | AA60-40011B                              | EYELET-;ID2.0,OD3.2,-,BSP                |        | 3 RD611  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EL701       | AA60-40011B                              | EYELET-;ID2.2,OD3.2,-,BSP                |        | 3 RD612  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EL702       | AA60-40011B                              | EYELET-;ID2.2,OD3.2,-,BSP                |        | 3 RD613  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EL06        | AA60-40011B                              | EYELET-;ID2.2,OD3.2,-,BSP                |        | 3 RD615  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 EL07        | AA60-40011B                              | EYELET-;ID2.2,OD3.2,-,BSP                |        | 3 RD622  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 GT05        | AA60-40014A                              | PIN-GT,ASSY;1P,-,AUTO                    |        | 3 RD623  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 GT06        | AA60-40014A                              | PIN-GT,ASSY;1P,-,AUTO                    |        | 3 RD624  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 GT07        | AA60-40014A                              | PIN-GT,ASSY;1P,-,AUTO                    |        | 3 RD625  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 GT08        | AA60-40014A                              | PIN-GT,ASSY;1P,-,AUTO                    |        | 3 RD626  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 GT09        | AA60-40014A                              | PIN-GT,ASSY;1P,-,AUTO                    |        | 3 RD627  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 GT10        | AA60-40014A                              | PIN-GT,ASSY;1P,-,AUTO                    |        | 3 RD628  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 GT11        | AA60-40014A                              | PIN-GT,ASSY;1P,-,AUTO                    |        | 3 RD702  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 GT12        | AA60-40014A                              | PIN-GT,ASSY;1P,-,AUTO                    |        | 3 RD704  | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,           |        |
| 4 GT502       | AA60-40014A                              | PIN-GT,ASSY;1P,-,AUTO                    |        | 3 RD508  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 4 GT503       | AA60-40014A                              | PIN-GT,ASSY;1P,-,AUTO                    |        | 3 RD509  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 4 DZ501       | 0403-000719                              | DIODE-ZENER;MTZJ7.5B,7.5V,7.07-7.45V,500 |        | 3 RD510  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| △ 4 RR401S    | 2004-001390                              | R-METAL(S);1KOHM,2%,1/2W,AA,TP           |        | 3 RD523  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 4 C823        | 2201-000108                              | C-CERAMIC,DISC;1.5NF,10%,1KVY            |        | 3 RD524  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 4 R822        | 2008-001109                              | R-FUSIBLE(S);0.18ohm,10%,2W,AG,TP,3.9x12 |        | 3 RD616  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 4 C622        | 2401-001513                              | C-AL;47UF,20%,16V,WT,5X11MM,5M           |        | 3 RD617  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| △ 4 FA802S    | 3601-001199                              | FUSE-AXIAL LEAD;125V,3A,SLOW-BLOW,EPOXY, |        | 3 RD629  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| △ 4 DZR01S    | 0403-000718                              | DIODE-ZENER;MTZJ6.8B,6.8V,6.49-6.83V,500 |        | 3 RD630  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 4 L303        | 2701-001032                              | INDUCTOR-AXIAL;100UH,10%,5X14MM          |        | 3 RD631  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 4 L/LINE      | AA68-01544A                              | LABEL,LINE,ALL MDL COMMON                |        | 3 RD632  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 3 CW          | AA65-30104C                              | CLAMP-WIRE;NYLON 66,V2,NTR,W1 Z4,ALL MOD |        | 3 RD633  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 3 CN301       | AA60-40012D                              | PIN-GT,ASSY;4P,T1.6-12.5-14MM, NYLON66   |        | 3 RD634  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 4 PWR/AC      | AA96-20129K                              | ASSY POWER CORD,,EP2/YES,H/S 450MM,KJ10W |        | 3 RD635  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 4 AA39-10007Y | POWER CORD,-,EP2/YES,SPT-2 18AWGx2C,2.4m |  |        | 3 RD636  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 4 AA61-20284A | HOLDER P CORD;PP,VO,BLK,KE-002           |  |        | 3 RD637  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |
| 2 A/INT       | AA96-01085A                              | ASSY MISC P-INTERFACE;V18A,20,TORNADO    |        | 3 RD643  | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,           |        |

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| 3        | RD644    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD104    | C-AL;47uF,20%,16V,GP,TP,5x11,5                          |        |
| 3        | RD646    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD517    | C-ELECTROLYTIC;CE04W(T)16V10M                           |        |
| 3        | RD647    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD518    | C-ELECTROLYTIC;CE04W(T)16V10M                           |        |
| 3        | RD648    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD102    | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE                |        |
| 3        | RD649    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD105    | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE                |        |
| 3        | RD650    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD106    | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE                |        |
| 3        | RD651    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD107    | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE                |        |
| 3        | RD653    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD110    | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE                |        |
| 3        | RD655    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD111    | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE                |        |
| 3        | RD657    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD112    | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE                |        |
| 3        | RD664    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD113    | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE                |        |
| 3        | RD665    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD301    | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE                |        |
| 3        | RD666    | R-CARBON;10KOHM,5%,1/8W,AA,TP,             |        | 3        | CD302    | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE                |        |
| 3        | RD501    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | CD303    | C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE                |        |
| 3        | RD502    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | LD501    | 2701-000112 INDUCTOR-AXIAL;100UH,10%,2.8X7              |        |
| 3        | RD525    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | XTD601   | 2802-000194 RESONATOR-CERAMIC;8MHz,1.0%,TP8.5x4.5x5     |        |
| 3        | RD526    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | BD501    | 3301-000287 CORE-FERRITEBEAD;AA,3.5X1.0X6.              |        |
| 3        | RD608    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | BD502    | 3301-000287 CORE-FERRITEBEAD;AA,3.5X1.0X6.              |        |
| 3        | RD610    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | SWD701   | 3404-000244 SWITCH-TACT;15V,20MA,90-170GF,              |        |
| 3        | RD618    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | SWD702   | 3404-000244 SWITCH-TACT;15V,20MA,90-170GF,              |        |
| 3        | RD619    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | SWD703   | 3404-000244 SWITCH-TACT;15V,20MA,90-170GF,              |        |
| 3        | RD620    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | SWD704   | 3404-000244 SWITCH-TACT;15V,20MA,90-170GF,              |        |
| 3        | RD621    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | SWD705   | 3404-000244 SWITCH-TACT;15V,20MA,90-170GF,              |        |
| 3        | RD638    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | JD005    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD641    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | JD006    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD642    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | JD008    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD645    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | JD009    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD654    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | JD010    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD659    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | JD011    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD660    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | JD012    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD661    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | JD014    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD662    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | JD016    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD663    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | JD017    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD685    | R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm     |        | 3        | JD018    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD104    | R-CARBON;2.2KOHM,5%,1/8W,AA,TP             |        | 3        | JD019    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD105    | R-CARBON;2.2KOHM,5%,1/8W,AA,TP             |        | 3        | JD020    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD107    | R-CARBON;2.2KOHM,5%,1/8W,AA,TP             |        | 3        | JD021    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD514    | R-CARBON;2000HM,5%,1/8W,AA,TP              |        | 3        | JD022    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD515    | R-CARBON;2000HM,5%,1/8W,AA,TP              |        | 3        | JD023    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD520    | R-CARBON;2000HM,5%,1/8W,AA,TP              |        | 3        | JD024    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD521    | R-CARBON;2000HM,5%,1/8W,AA,TP              |        | 3        | JD025    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD527    | R-CARBON;2200HM,5%,1/8W,AA,TP              |        | 3        | JD026    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD528    | R-CARBON;2200HM,5%,1/8W,AA,TP              |        | 3        | JD027    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD534    | R-CARBON;2200HM,5%,1/8W,AA,TP              |        | 3        | JD028    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD535    | R-CARBON;2200HM,5%,1/8W,AA,TP              |        | 3        | JD029    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD668    | R-CARBON;2200HM,5%,1/8W,AA,TP              |        | 3        | JD030    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD511    | R-CARBON;4.7KOHM,5%,1/8W,AA,TP             |        | 3        | JD033    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD512    | R-CARBON;4.7KOHM,5%,1/8W,AA,TP             |        | 3        | JD034    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD513    | R-CARBON;4.7KOHM,5%,1/8W,AA,TP             |        | 3        | JD035    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD516    | R-CARBON;4.7KOHM,5%,1/8W,AA,TP             |        | 3        | JD036    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD517    | R-CARBON;4.7KOHM,5%,1/8W,AA,TP             |        | 3        | JD037    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD518    | R-CARBON;4.7KOHM,5%,1/8W,AA,TP             |        | 3        | JD038    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD519    | R-CARBON;4.7KOHM,5%,1/8W,AA,TP             |        | 3        | JD040    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD522    | R-CARBON;4.7KOHM,5%,1/8W,AA,TP             |        | 3        | JD041    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD640    | R-CARBON;5100HM,5%,1/8W,AA,TP              |        | 3        | JD042    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD102    | R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4    |        | 3        | JD043    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD108    | R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4    |        | 3        | JD044    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD101    | R-CARBON(S);2200HM,5%,1/2W,AA,             |        | 3        | JD045    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | RD103    | R-CARBON(S);2200HM,5%,1/2W,AA,             |        | 3        | JD047    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | CD508    | C-CERAMIC,DISC;470PF,10%,50V,Y             |        | 3        | JD048    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | CD509    | C-CERAMIC,DISC;470PF,10%,50V,Y             |        | 3        | JD049    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | CD511    | C-CERAMIC,DISC;470PF,10%,50V,Y             |        | 3        | JD013    | 3812-000219 JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A       |        |
| 3        | CD512    | C-CERAMIC,DISC;470PF,10%,50V,Y             |        | 3        | 00VER    | AA41-00665A PCB-INTERFACE;SMD-29J5,FR-1,L,A,1.6T,33     |        |
| 3        | CD101    | C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP   |        | 3        | FLD501   | 2901-001125 FILTER-EMI ON BOARD;50V,0.5A,-220pF,7x2     |        |
| 3        | CD109    | C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP   |        | 3        | RD106    | 2006-00162 R-CEMENT;2.7ohm,5%,5W,CB,BK,10x13x25.4m      |        |
| 3        | CD506    | C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP   |        | 3        | CN11     | 3708-001364 CONNECTOR-FPC/FFC/PIC;35P,1.25MM,STRAIGHT,S |        |
| 3        | CD514    | C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP   |        | 3        | DCN003   | 3708-001695 CONNECTOR-FPC/FFC/PIC;13P,1MM,STRAIGHT,S    |        |
| 3        | CD523    | C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP   |        | 3        | DCN006   | 3708-001695 CONNECTOR-FPC/FFC/PIC;13P,1MM,STRAIGHT,S    |        |
| 3        | CD603    | C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP   |        | 3        | DCN005   | 3708-001696 CONNECTOR-FPC/FFC/PIC;24P,1MM,STRAIGHT,S    |        |
| 3        | CD501    | C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP   |        | 3        | DCN007   | 3708-001696 CONNECTOR-FPC/FFC/PIC;24P,1MM,STRAIGHT,S    |        |
| 3        | CD602    | C-CERAMIC,MLC-AXIAL;10nF,30%,16V,Y5S,TP,   |        | 3        | DCN002   | 3711-001018 CONNECTOR-HEADER;BOX,5P,1R,2mm,STRAIGHT,    |        |
| 3        | CD507    | C-FILM,PEF;3.3NF,5%,50V,8.1X4.             |        | 3        | JKD01    | 3722-001749 JACK-PIN;3P(3P),-NI,YEL/WHT/RED,-           |        |
| 3        | CD510    | C-FILM,PEF;3.3NF,5%,50V,8.1X4.             |        | 3        | DCN06A   | 3809-001358 CABLE-FLAT;60V,80C,200MM,13P,1MM,UL20624    |        |
| 3        | CD505    | 2401-000914 C-AL;22UF,20%,16V,GP,X11,5,TP  |        | 3        | DCN07A   | 3809-001359 CABLE-FLAT;60V,80C,200MM,24P,1MM,UL20624    |        |
| 3        | CD114    | 2401-002009 C-AL;100UF,20%,16V,GP,TP,6.3X7 |        | 3        | CN11A    | 3809-001360 CABLE-FLAT;30V,80C,150MM,35P,1.25MM,UL28    |        |
| 3        | CD601    | 2401-002009 C-AL;100UF,20%,16V,GP,TP,6.3X7 |        | 3        | CND002   | AA39-00074A LEAD CONNECTOR-ASSY;,8P,YBNH250-08,35155    |        |
| 3        | CD513    | 2401-002144 C-AL;47uF,20%,16V,GP,TP,5x11,5 |        | 3        | CND001   | AA39-00116C LEAD CONNECTOR-ASSY;,12P,YBNH250-12,3515    |        |

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|-------------------------|-------------|---|--------|----------|----------|-----------------------------|--------|
| 3 CND004                | AA39-00117D | LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS  |        |          |          |                             |        |
| 3 DCN001                | AA39-00229C | LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS  |        |          |          |                             |        |
| 3 CN12                  | AA39-00329A | LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS  |        |          |          |                             |        |
| 3 CND003                | AA39-20005G | LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS  |        |          |          |                             |        |
| 3 ICD503                | 0801-000442 | IC-CMOS LOGIC;74HCU04,INVERTER,SOP,14P,1  |        |          |          |                             |        |
| 3 ICD501                | 1002-001241 | IC-D/A CONVERTER;AK4382VT,24BIT,TSSOP,16  |        |          |          |                             |        |
| 3 ICD502                | 1201-000163 | IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m  |        |          |          |                             |        |
| 3 ICD601                | AA09-00305A | IC MIMIC;UPD78F0034AGC-580-8B,SNM-746,64  |        |          |          |                             |        |
| 2 A/DECK                | AA96-00959A | ASSY MISC P-M-DECK, , 6HD,19UM,NTSC,HQ    |        |          |          |                             |        |
| 2 A/DVD                 | AA96-00976A | ASSY MISC P-M/DVD;DVD-DS002/SAM,V18A, ,   |        |          |          |                             |        |
| 2 A/DVDP                | AA96-00977A | ASSY MISC P-PCB,M/DVDP;DVD-PSA21/SAM,V18  |        |          |          |                             |        |
| 2 CW                    | AA65-00011C | CLAMP-WIRE;ALL MODEL,NYLON 66,V2,NTR,25M  |        |          |          |                             |        |
| 2 HP+HD                 | 6002-000522 | SCREW-TAPPING;TH,+,2,M4,L15,ZP            |        |          |          |                             |        |
| 2 VDEC+H                | 6002-000522 | SCREW-TAPPING;TH,+,2,M4,L15,ZP            |        |          |          |                             |        |
| 2 IP+HD                 | 6003-001023 | SCREW-TAPITTERWH,+,B,M3,L10,ZPC(YEL)      |        |          |          |                             |        |
| 2 MAINP+                | 6003-001023 | SCREW-TAPITTERWH,+,B,M3,L10,ZPC(YEL)      |        |          |          |                             |        |
| 2 POWERP                | 6003-001023 | SCREW-TAPITTERWH,+,B,M3,L10,ZPC(YEL)      |        |          |          |                             |        |
| 2 SDVD+H                | 6003-001023 | SCREW-TAPITTERWH,+,B,M3,L10,ZPC(YEL)      |        |          |          |                             |        |
| 2 SVCR+H                | 6003-001023 | SCREW-TAPITTERWH,+,B,M3,L10,ZPC(YEL)      |        |          |          |                             |        |
| 2 H/D                   | AA61-01184A | HOLDER-DECK;COMBO,HIPS VO,G4309           |        |          |          |                             |        |
| 2 H/P                   | AA61-01185A | HOLDER-PCB;COMBO,HIPS VO,G4309            |        |          |          |                             |        |
| 2 H/T                   | AA61-01187A | HOLDER-TRAY;21J5,ABS HB,BLK               |        |          |          |                             |        |
| 2 SH/V                  | AA63-00594A | SHIELD-VCR;COMBO,SECC,T0.5                |        |          |          |                             |        |
| 2 SH/V                  | AA63-00595A | SHIELD-DVD;COMBO,SECC,T0.5                |        |          |          |                             |        |
| 2 S/BUMP                | AA60-00157A | SPACER-BUMPON;,COMBO,D10.2,BLK,T2.5,W10.  |        |          |          |                             |        |
| 2 D/DECK+               | 6003-001022 | SCREW-TAPITTE;RH,+,B,M3,L12,ZPC(BLK),SWR  |        |          |          |                             |        |
| 2 DVDP+H                | 6003-001022 | SCREW-TAPITTE;RH,+,B,M3,L12,ZPC(BLK),SWR  |        |          |          |                             |        |
| 2 SHIELD                | AA63-00443B | SHIELD;TVCR,SPTE ,T0.3,SUS-DECK           |        |          |          |                             |        |
| 2 GT002                 | AA39-20497B | LEAD CONNECTOR-ASSY;,1P,YFH800-01,RING,2  |        |          |          |                             |        |
| 2 INL/BA                | AA64-01763B | INLAY-BARRIER,FRONT;21G5,PVC,T0.4,,-,     |        |          |          |                             |        |
| 2 CW                    | AA65-30014A | CLAMP-WIRE;-,NYLON-66,V0,,-,NTR,DAVL-450- |        |          |          |                             |        |
| 2 FBT                   | AA65-30018A | CLAMP-WIRE;-,NYLON6.6,,-,DAVL             |        |          |          |                             |        |
| <b>ASSY COVER REAR</b>  |             |   |        |          |          |                             |        |
| 1 A/REAR                | AA90-03575A | ASSY COVER REAR;CFTD2083TX/SMS,V18A       |        |          |          |                             |        |
| 2 SPCBC                 | AA60-00091J | SPACER-FELT;-,FELT,33X10,,-,BLK,T0.5,-    |        |          |          |                             |        |
| 2 B/C                   | AA64-02811A | CABINET-BACK;21J5,HIPS,VO,BLK             |        |          |          |                             |        |
| 2 INLAYB                | AA64-02820A | INLAY-BACK;21J5,PS SHEET,T0.5             |        |          |          |                             |        |
| 2 AC+BC                 | AA65-30008A | CLAMP-CORD;-,PE,HB,BLK,,-,                |        |          |          |                             |        |
| 2 CB-CF                 | AA60-10050T | SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW  |        |          |          |                             |        |
| 2 RCA+CB                | AA60-10050T | SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW  |        |          |          |                             |        |
| <b>ASSY COVER FRONT</b> |             |   |        |          |          |                             |        |
| 1 A/CFRN                | AA90-03561A | ASSY COVER FRONT;CFTD2083TX/SMS,V18A      |        |          |          |                             |        |
| 2 CRT+CF                | AA60-10050R | SCREW-ASSY;WC,HH,+M5,L31.5,SWR            |        |          |          |                             |        |
| 2 SPK+CF                | 6003-001026 | SCREW-TAPITTE;RH,+,B,M4,L15,ZPC(BLK),SWR  |        |          |          |                             |        |
| 2 L/SPK                 | AA39-00102S | LEAD-CONNECTOR,ASSY;4P,35155-0400,REC,40  |        |          |          |                             |        |
| 2 SPK                   | 3001-001020 | SPEAKER;3W,8ohm,90dB,140Hz                |        |          |          |                             |        |
| 2 F/C                   | AA64-02810A | CABINET-FRONT;21J5,HIPS,VO,G4309,SV808P   |        |          |          |                             |        |
| 3 KD+CF                 | 6003-001026 | SCREW-TAPITTE;RH,+,B,M4,L15,ZPC(BLK),SWR  |        |          |          |                             |        |
| 3 KF+CF                 | 6003-001026 | SCREW-TAPITTE;RH,+,B,M4,L15,ZPC(BLK),SWR  |        |          |          |                             |        |
| 3 PC+CF                 | 6003-001026 | SCREW-TAPITTE;RH,+,B,M4,L15,ZPC(BLK),SWR  |        |          |          |                             |        |
| 3 WR+CF                 | 6003-001026 | SCREW-TAPITTE;RH,+,B,M4,L15,ZPC(BLK),SWR  |        |          |          |                             |        |
| 3 PANEL                 | AA64-02812A | PANEL-CONTROL;21J5,HIPS,VO,G4309,SV808P   |        |          |          |                             |        |
| 3 DT                    | AA64-02814A | DOOR-TRAY;21J5,ABS HB,G4309,SV808P        |        |          |          |                             |        |
| 3 KF                    | AA64-02815A | KNOB-FAMILY;21J5,ABS,HB,G3676,DG703P+W97  |        |          |          |                             |        |
| 3 KD                    | AA64-02816A | KNOB-DVD;21J5,ABS,HB,G3676,DG703P+W971    |        |          |          |                             |        |
| 3 WL                    | AA64-02819A | WINDOW-LED;21J5,PC,CLR                    |        |          |          |                             |        |
| 3 BRKT+C                | AA60-10050T | SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW  |        |          |          |                             |        |
| 3 DH                    | AA64-02960A | DOOR-HOUSING;21J5,ABS HB,G4309,SV808P     |        |          |          |                             |        |
| 3 BRK                   | AA61-01225A | BRACKET-CRT;21J5,SECC,T2.0                |        |          |          |                             |        |
| 3 SDD                   | AA61-01223A | SPRING ETC-DOOR,DVD;21J5,SUS304,T0.3      |        |          |          |                             |        |
| 3 SDV                   | AA61-01224A | SPRING ETC-DOOR,VCR;21J5,SUS304,T0.4      |        |          |          |                             |        |
| 3 TAPE                  | 0203-001085 | TAPE-DOUBLE FACE;#4929,T0.64,W12,,-,BLK   |        |          |          |                             |        |
| 3 L/DVD                 | AA68-01132F | LABEL-DVD;21G5,HOLOGRAM,T0.3,4ZC          |        |          |          |                             |        |
| 3 C/F                   | 0203-001290 | TAPE-OPP MASKING;ANT 100C,T0.073,W30,L50  |        |          |          |                             |        |
| 2 BADGE                 | AA64-02890B | BADGE-BRAND;50MM,AL FORGING,T1.5,10.0,50  |        |          |          |                             |        |
| 2 L/QMS                 | AA68-02391A | LABEL-QMS;ART-PAPER(90)G,110x24mm         |        |          |          |                             |        |
| 2 SPACER                | AA63-60002D | SPACER-FELT;-,FELT,T1.0,BLK,330X15,       |        |          |          |                             |        |
| <b>ASSY BOX</b>         |             |   |        |          |          |                             |        |
| 1 A/BOX                 | AA92-06249A | ASSY BOX;CFTD2083TX/SMS,V18A              |        |          |          |                             |        |
| 2 L/BARC                | AA68-01621A | LABEL-BARCODE;EDP60POUNDSSMOOT            |        |          |          |                             |        |
| 2 PCK                   | AA69-01804A | PACKING CASE;21J5(SAMEX),D-2 BB,A1,654,5  |        |          |          |                             |        |
| <b>ASSY P/MATERIAL</b>  |             |   |        |          |          |                             |        |
| 1 A/PACK                | AA92-06250A | ASSY P/MATERIAL;CFTD2083TX/SMS,V18A       |        |          |          |                             |        |
| 2 BXTAPE                | 0203-001295 | TAPE-OPP MASKING;1242,T0.06,W100,L91.4M,  |        |          |          |                             |        |
| 2 STAPLE                | AA60-40006A | PIN-STAPLE;-,,-,H18,33X17.8X2             |        |          |          |                             |        |
| 2 PE-BAG                | AA69-01208A | BAG,SHEET;19-20,W42,L50,FOAM,OEM          |        |          |          |                             |        |
| 2 C/SET                 | AA69-01692A | CUSHION-SET;21J5,PS FOAMED,C=0.02         |        |          |          |                             |        |
| <b>ASSY LABEL</b>       |             |   |        |          |          |                             |        |
| 1 A/LABE                | AA92-06210A | ASSY LABEL;CFTF2083TX/SMS,V18A            |        |          |          |                             |        |
| 2 L/RAT                 | AA68-02498A | LABEL-RATING;WHITE PAPER,AKAI,UL,SAM'S C  |        |          |          |                             |        |
| 2 L/SET                 | AA68-01065H | LABEL-D.H.H.S;CS21A9GFAX/AAG,A/P120(G),A  |        |          |          |                             |        |
| <b>ASSY CPT</b>         |             |   |        |          |          |                             |        |
| 1 A/CPT                 | AA91-02169E | ASSY CPT;A51QDX992X,21,0MG,BARE,AA03-00   |        |          |          |                             |        |
| 2 TAPE                  | 0203-001303 | TAPE-ACETATE;#1554,T0.25,W19,L30000,WHT   |        |          |          |                             |        |
| 2 CRT                   | AA03-00317A | CRT COLOR;A51QDX992X,0MG,1.85MH,18.0MH,2  |        |          |          |                             |        |
| 2 C-Y                   | AA27-00002A | MAGNET-CONVERGENCE;JH291-SC-OB,29.1M      |        |          |          |                             |        |
| 2 D-Y                   | AA27-00198A | DEFLECTION YOKE;21DF,DIF-2192AA(NF),ST-3  |        |          |          |                             |        |
| 2 SPACER                | AA63-60028A | SPACER-DY;-,NEOPRENE,,-,BLK,VOW           |        |          |          |                             |        |
| 2 D-COIL                | AA27-00213A | COIL-DEGAUSSING;21INCH F,0.8MH,10%,23T,1  |        |          |          |                             |        |
| 2 A/TBC                 | AA98-00011B | ASSY-TBC,WIRE(P);,-21INCH,PAL,2PCS-5399   |        |          |          |                             |        |
| 2 CDCOIL                | AA65-00009B | CLAMP-D,COIL;NYLON 66,V0,,-,21A8,-        |        |          |          |                             |        |
| 2 INL/CR                | AA64-03072A | INLAY-COVER;PS-SHEET,50X30,T,1.0          |        |          |          |                             |        |
| <b>ASSY ACCESSORY</b>   |             |   |        |          |          |                             |        |
| 1 A/ACCE                | AA92-06244A | ASSY ACCESSORY;CFTD2083TX/SMS,V18A        |        |          |          |                             |        |
| 2 BAG-PE                | AA69-01195A | BAG PE;CL29A6W8X,HDPE,0.012,93/4X151      |        |          |          |                             |        |
| 2 AC-TAP                | 0203-001279 | TAPE-OPP MASKING;#232,T0.14,W15,L50000,Y  |        |          |          |                             |        |
| 2 RMT                   | AA59-00265A | REMOCON;TM66,3WAY COMBO,53,G6671B,S/S,A   |        |          |          |                             |        |
| 2 C/WARR                | AA68-02154A | CARD WARRANTY;KS3A,1 PAGE,SAM'S CLUB,SPA  |        |          |          |                             |        |
| 2 BATT                  | 4301-000120 | BATTERY-MN;1.5V,AA                        |        |          |          |                             |        |
| 2 I/B1                  | AA68-02572A | MANUAL USERS;ENG,W/P100,98P,V18A          |        |          |          |                             |        |
| 2 I/B2                  | AA68-02573A | MANUAL USERS;SPA,W,P100,98P,V18A          |        |          |          |                             |        |
| 2 W/C                   | AA68-02284A | CARD WARRANTY;CFT2790,SMS,W/P100(G),ENG,  |        |          |          |                             |        |

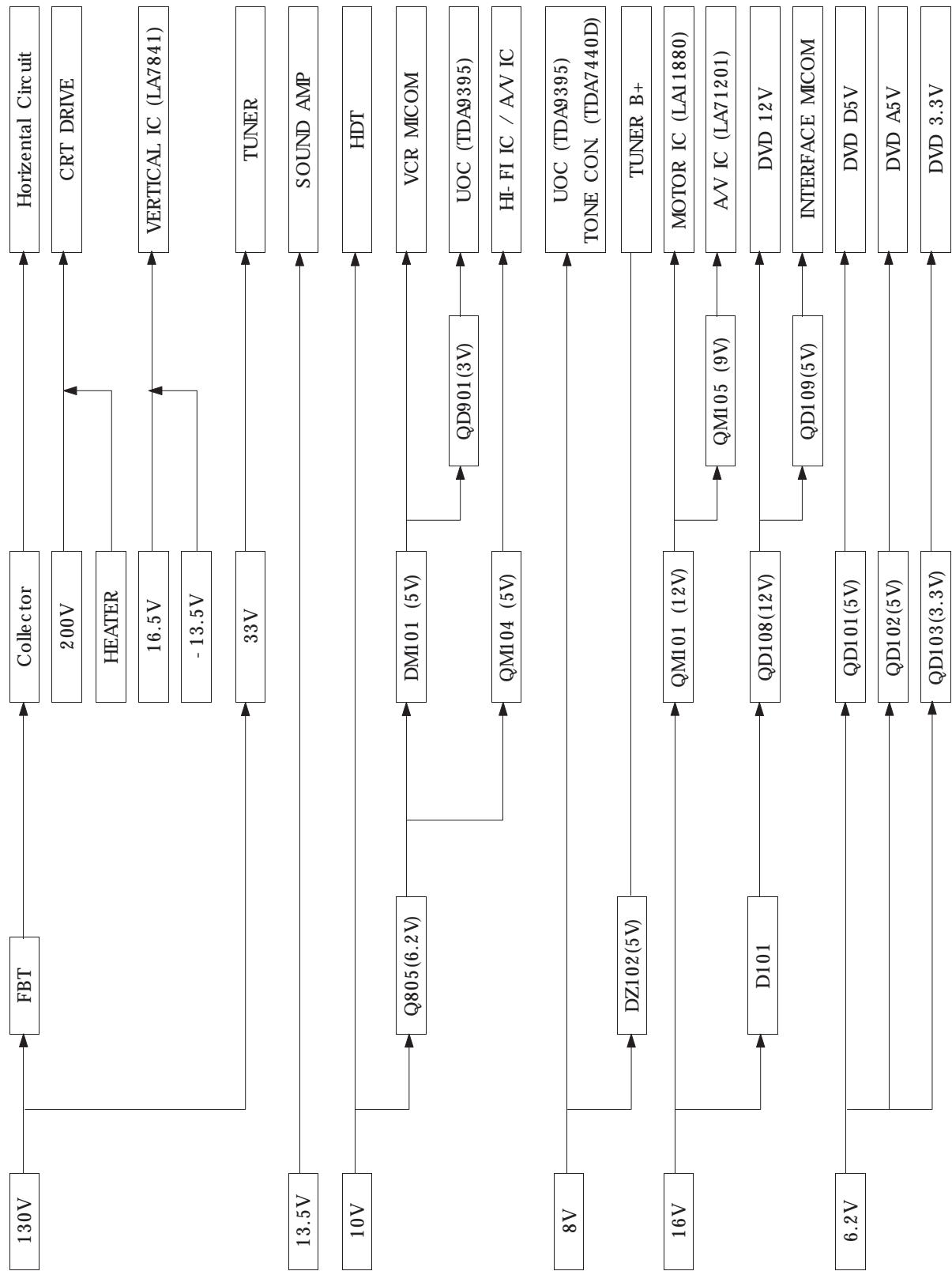
## 8. Block Diagrams

### 8-1 Signal Block Diagram



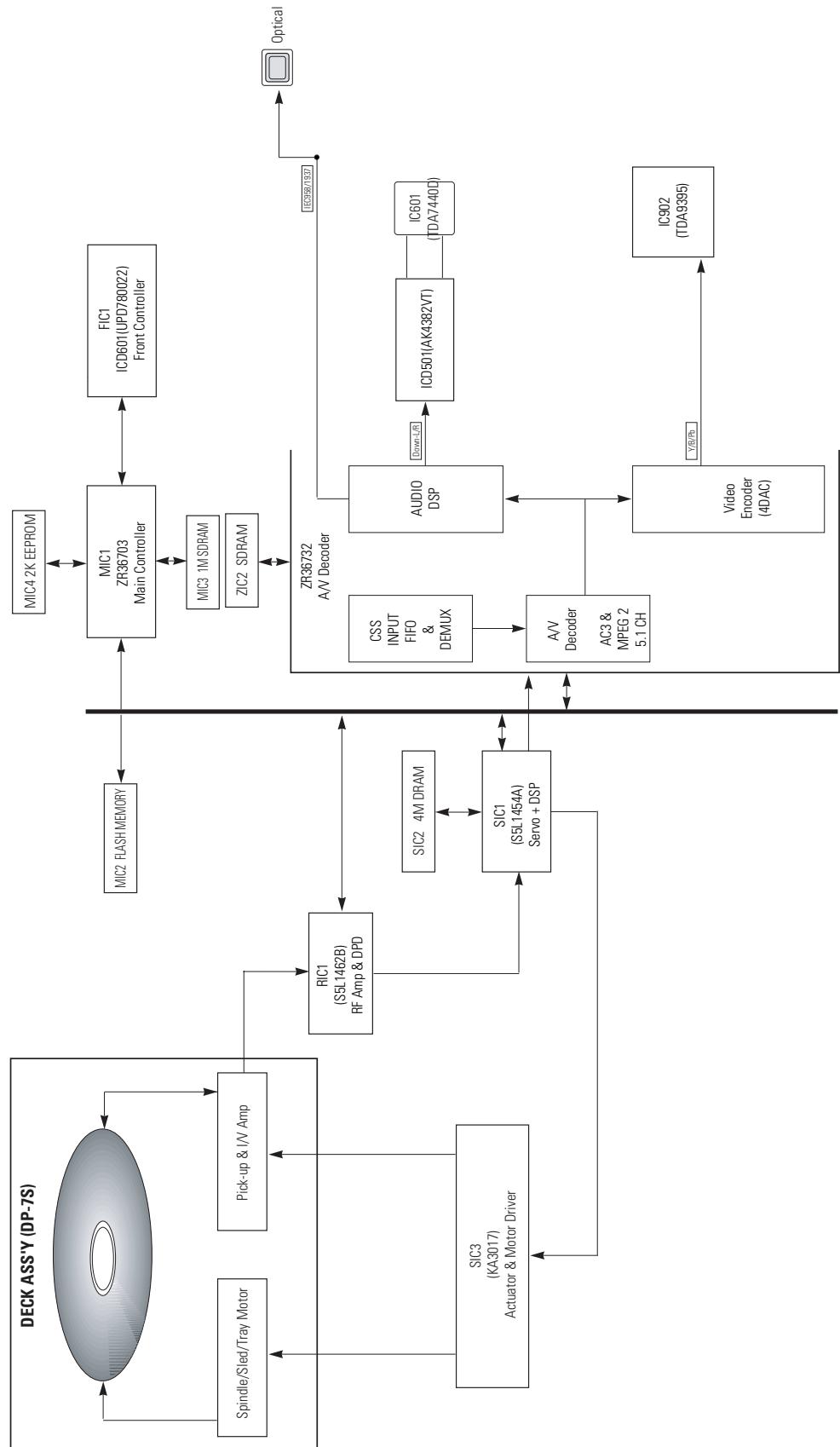
## 8-2 POWER Block Diagram

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## 8-3 DVD Block

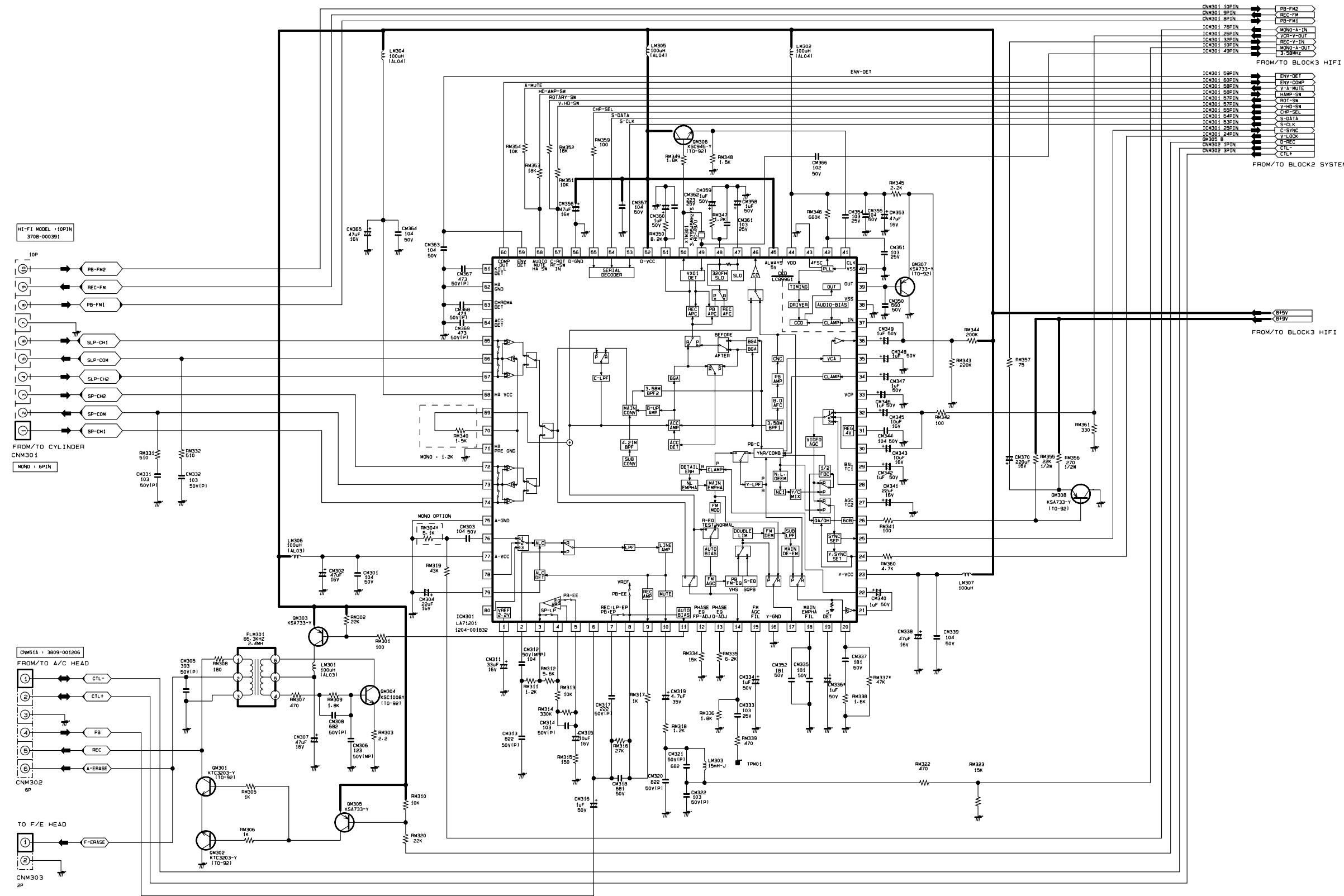
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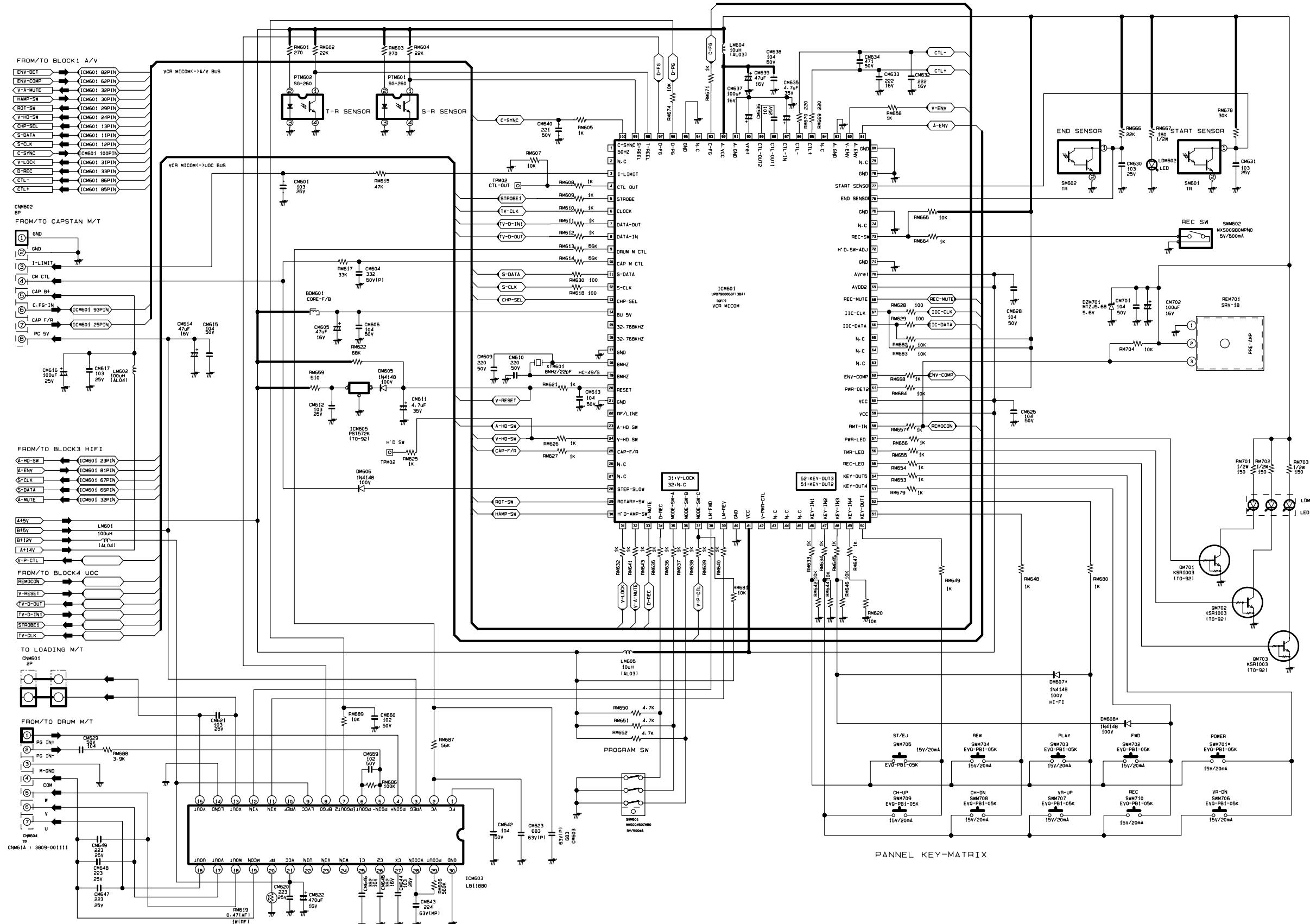


# **MEMO**

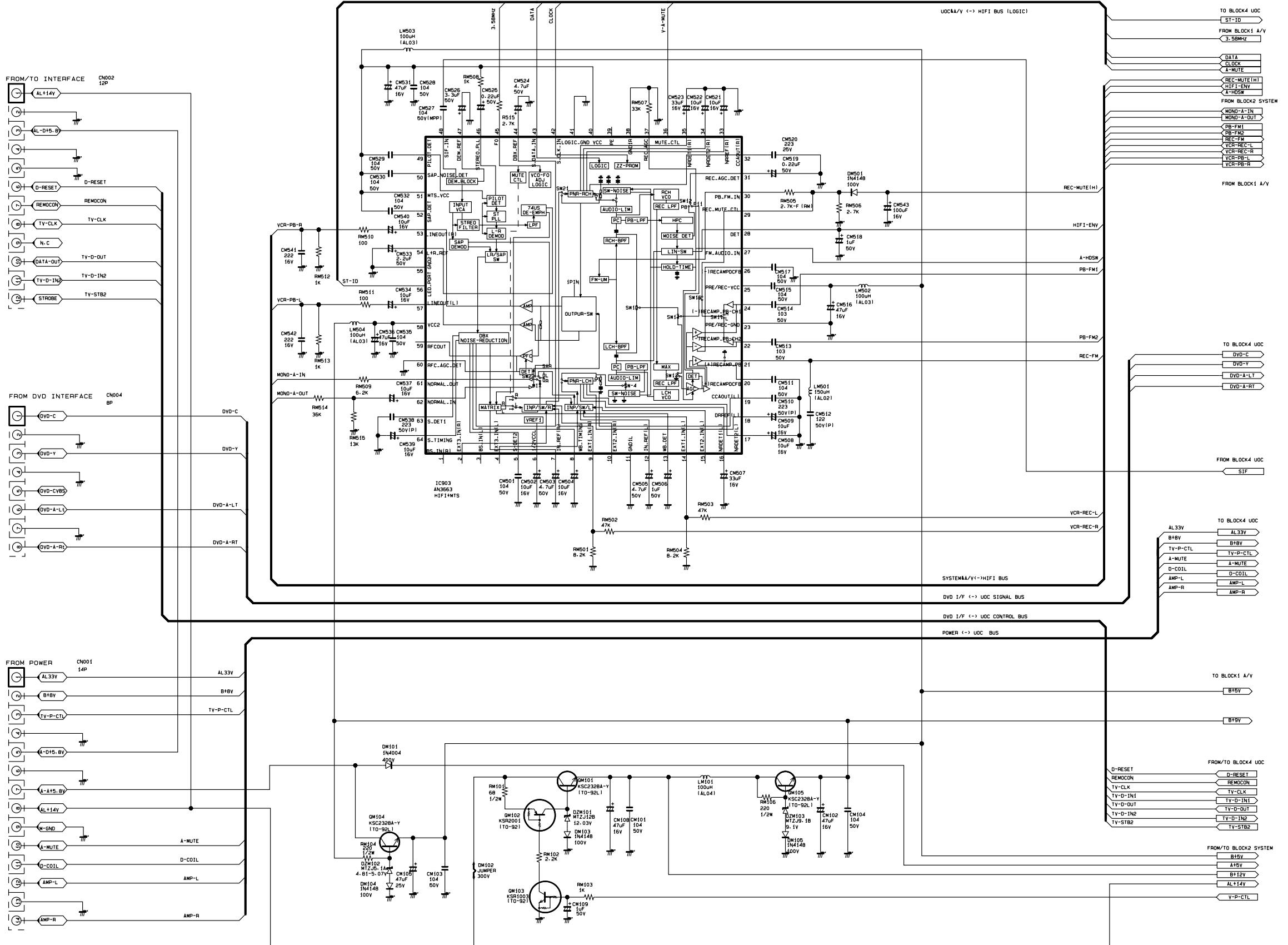
## **9. Schematic Diagrams**

9-1 MAIN 1

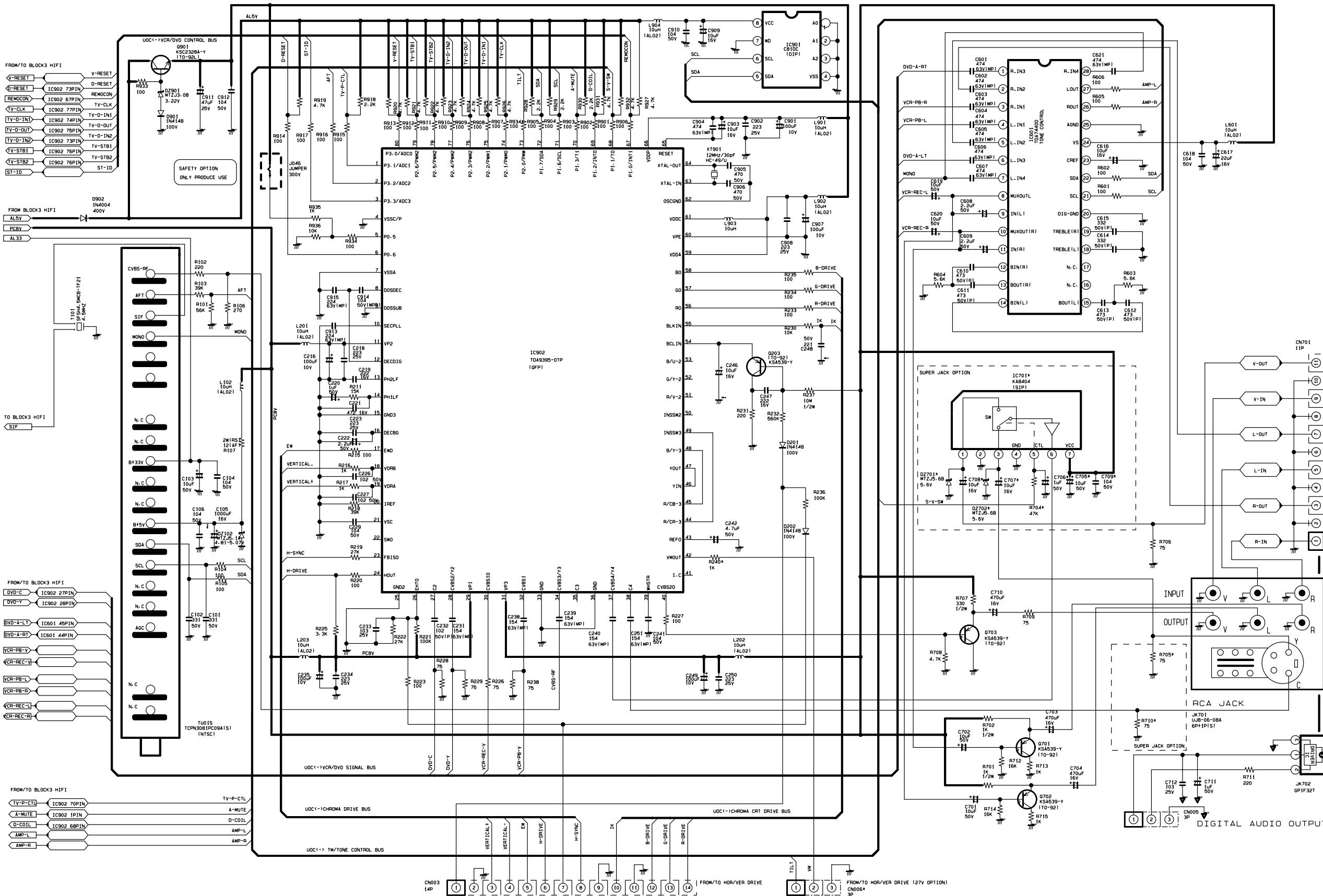


**9-2 MAIN 2**

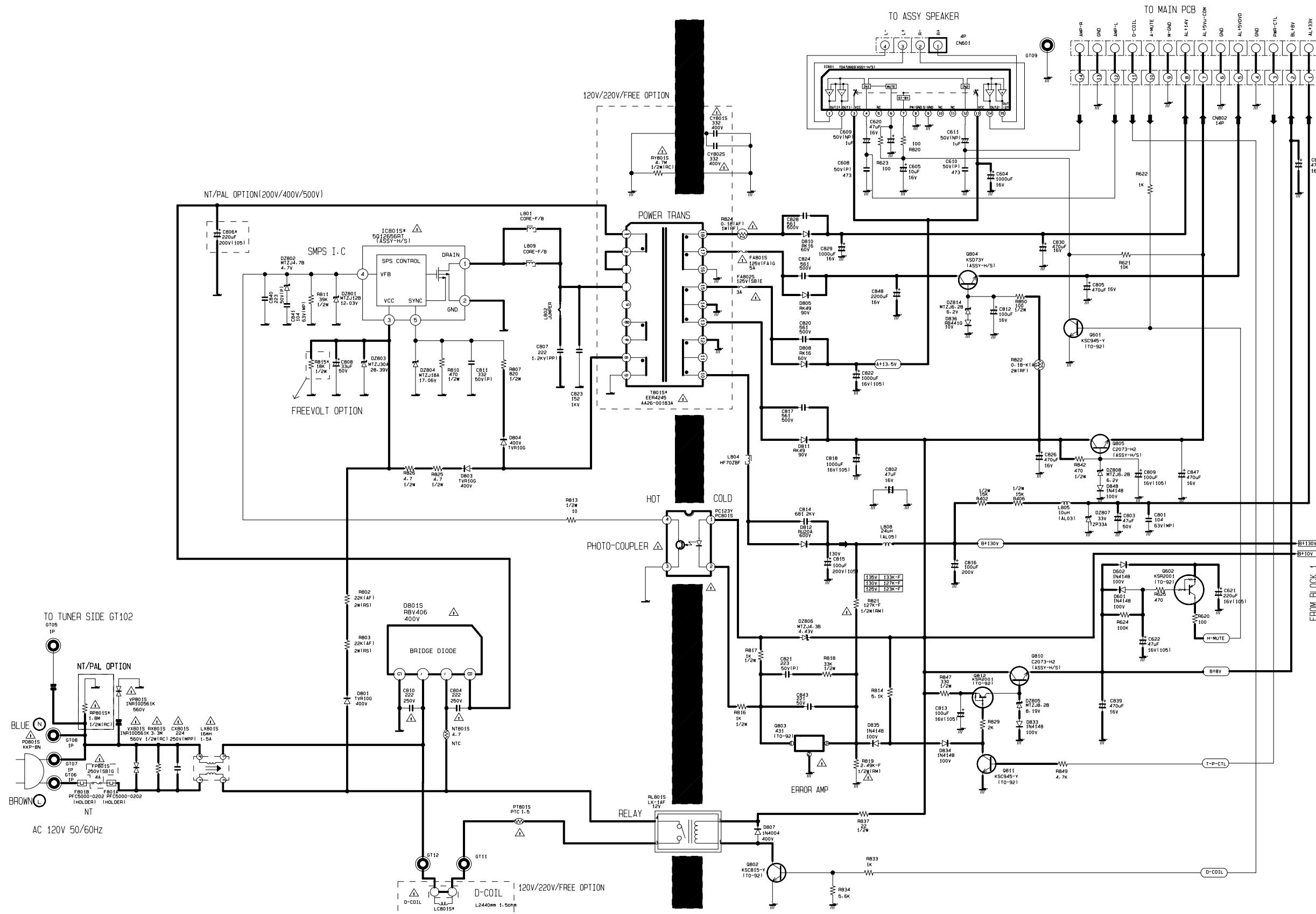
## 9-3 MAIN 3



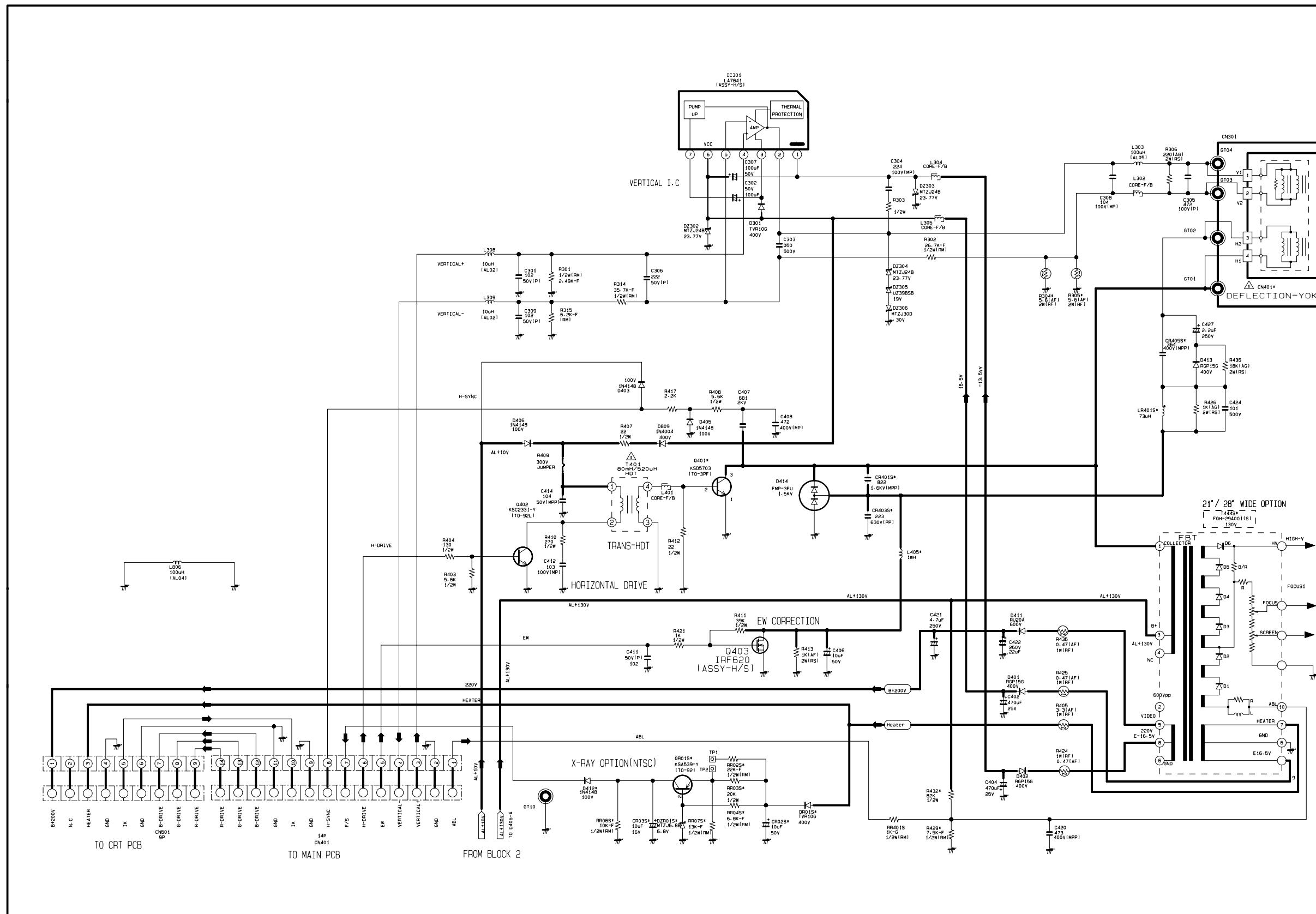
## 9-4 MAIN 4



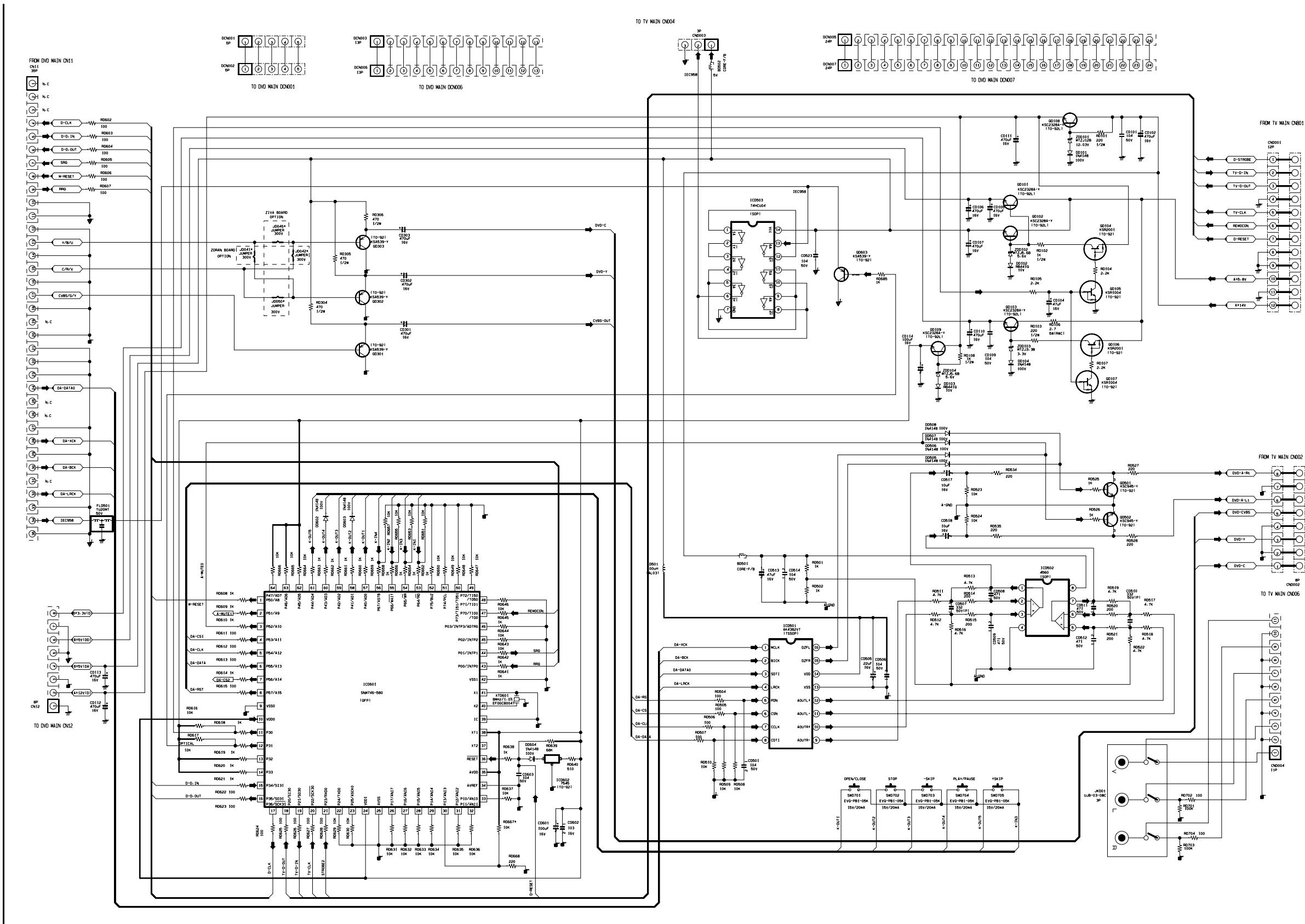
## 9-5 POWER BLOCK



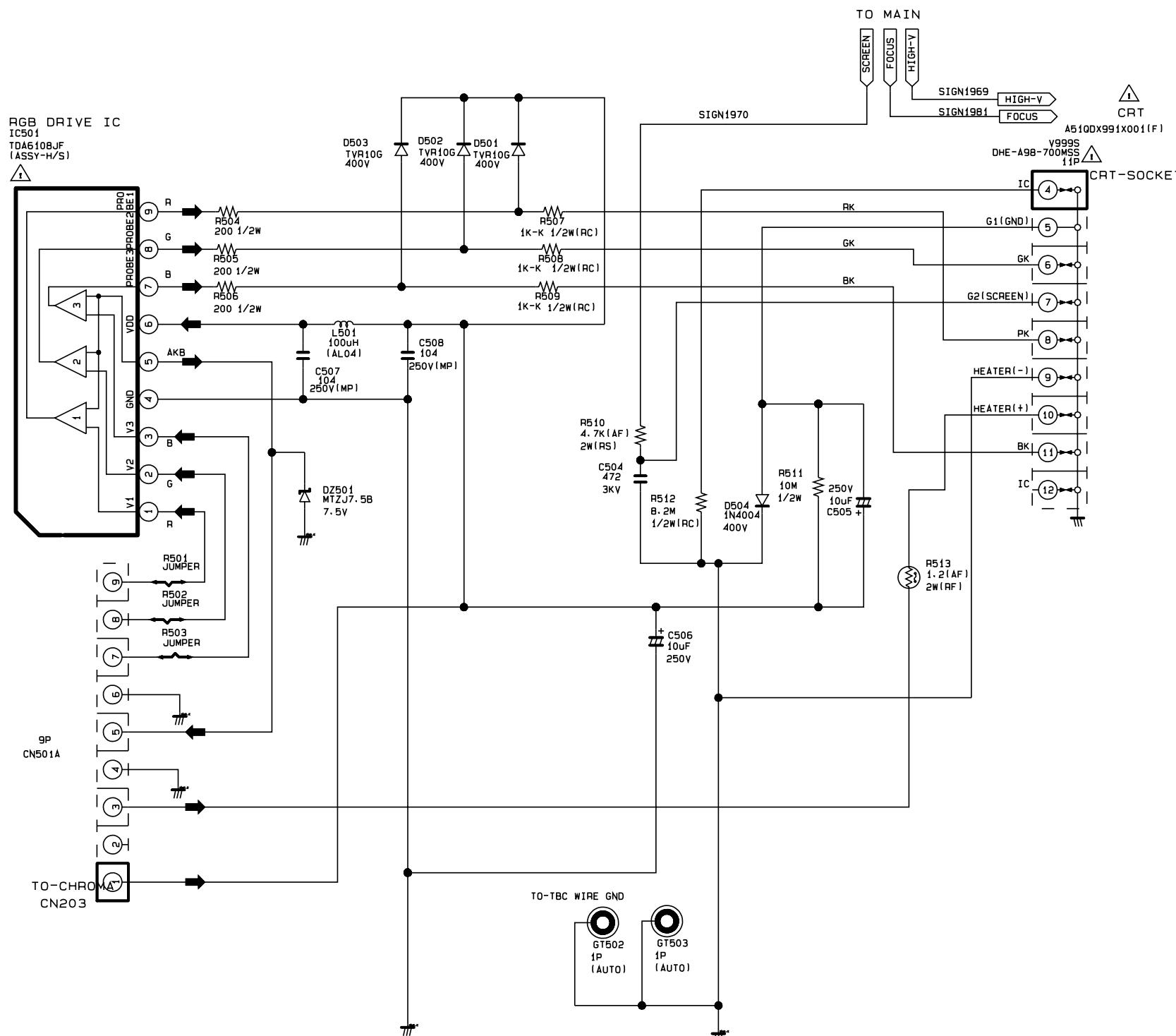
## **9-6 DEFLECTION BLOCK**



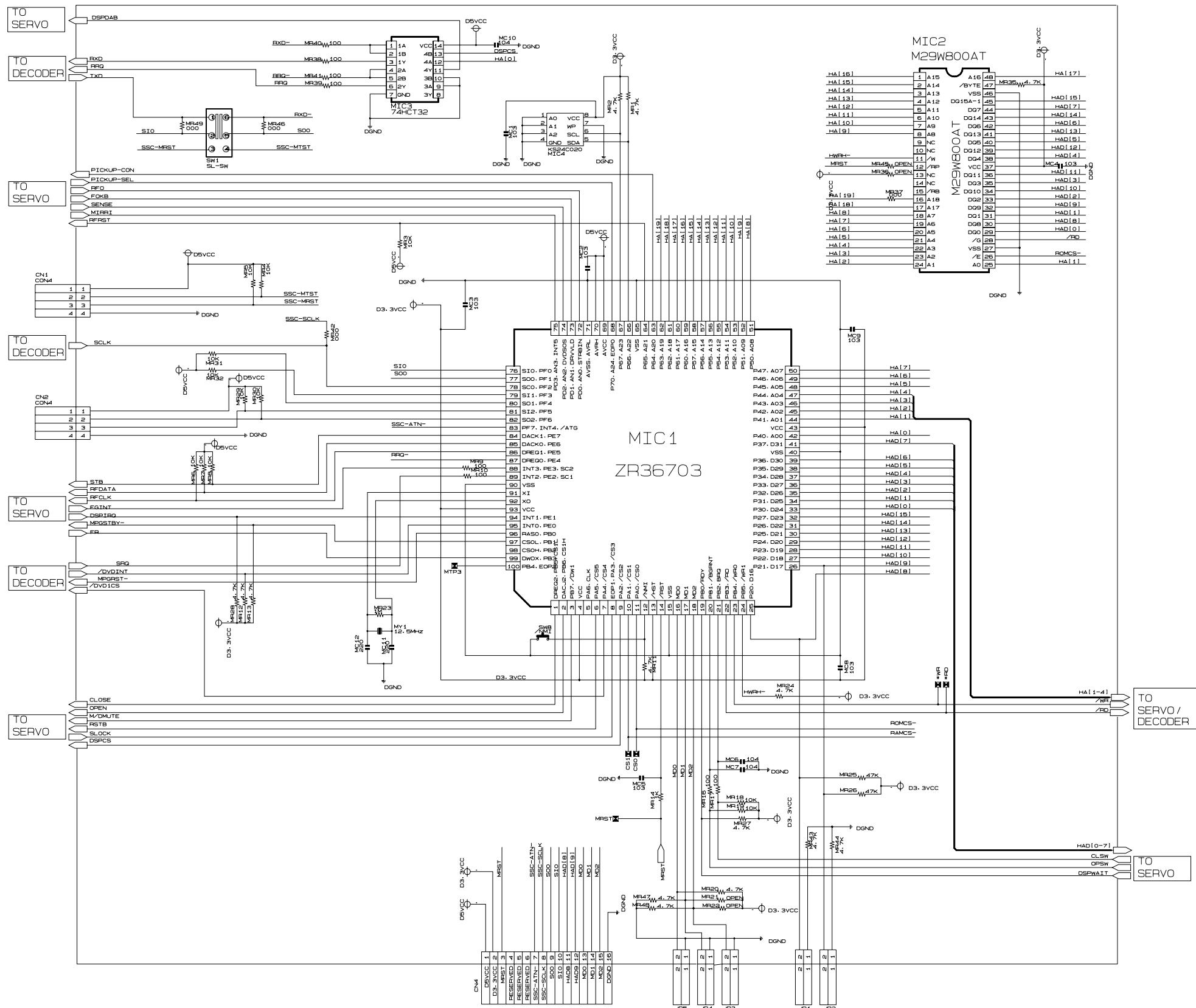
## 9-7 INTERFACE BLOCK



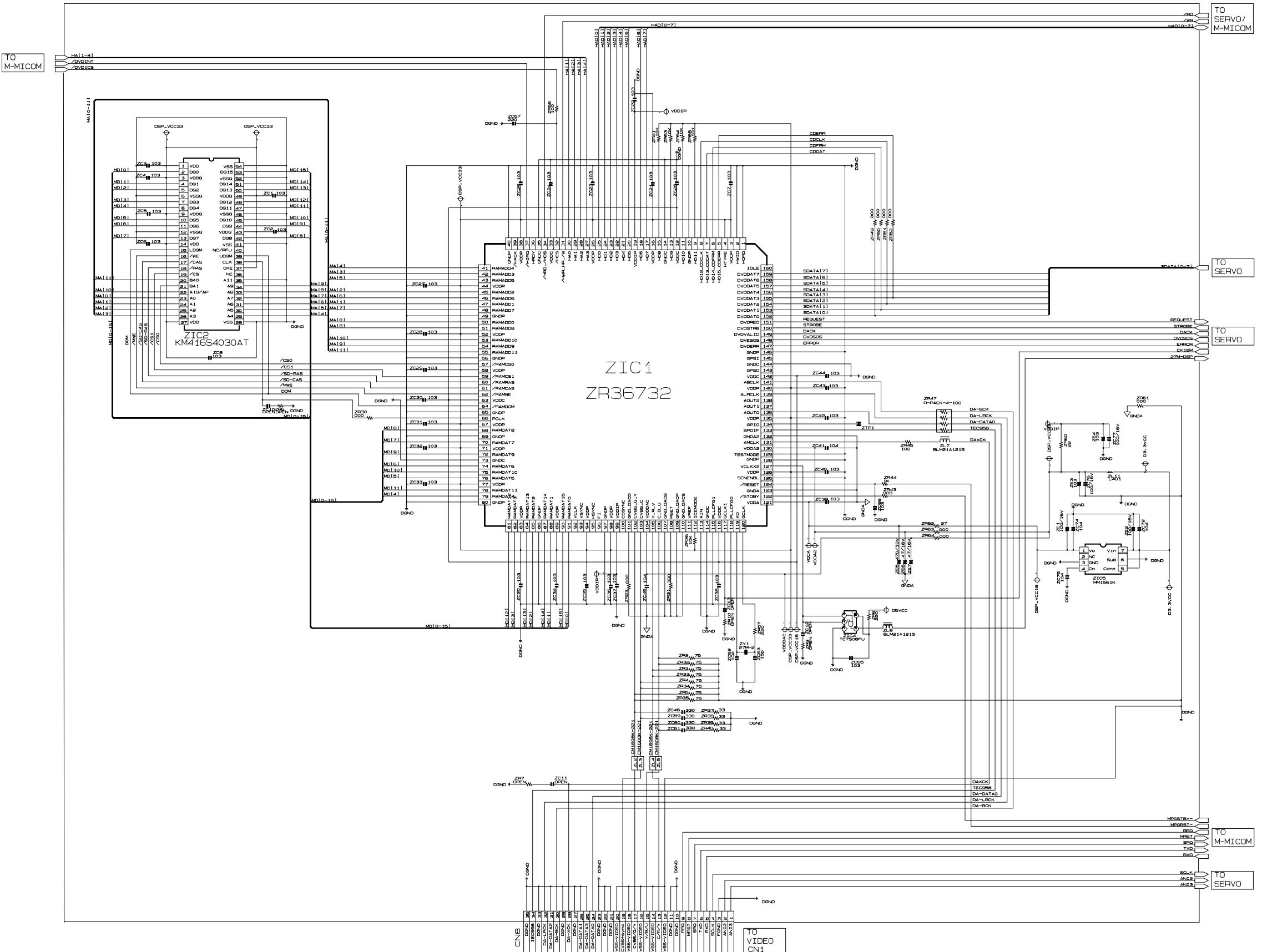
## **9-8 CRT BLOCK**



## 9-9 Main-Micom



## **9-10 AV-Decoder**



## **9-11 Servo/Key**

